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An Overview of Home-Based Work: Results From a Regional Research Project

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This study uses data from a regional research project to provide an overview of the nature of home-based work, characteristics of home-based workers, and home-based workers' assessment of their work. Most home-based workers (75 percent) owned their own business and 47 percent worked 40 or more hours per week. Home-based workers were a heterogeneous group in regard to occupation, sex, age, education, and presence of children. Most (83 percent) home-based workers were satisfied with their employment. Most planned to continue working at home. Results of this study should give policy-makers a better understanding of this growing segment of the labor force.

In 20th-century America, work and home have been two separate aspects of most people's lives. A growing number of Americans, however, have merged the two, resulting in home-based work. Although home-based work is often viewed as an ideal work arrangement and a trend of the future (*1,2*), few studies have examined such employment.

A Bureau of Labor Statistics (BLS) study by Horvath (*4*), using the 1985 Current Population Survey, focused on people who worked at home. Work-at-home was defined as any work done at home as part of one's regularly scheduled employment. The study found that an estimated 17.3 million people engaged in some nonfarm work-at-home, with 1.9 million people engaged exclusively in home-based, nonfarm work. Of persons working exclusively at home, two-thirds were women. About half were in service industries. Mean hours per week worked at home was 32.

Based on a national survey of about 2,500 randomly selected households, a study by LINK Resources estimated that in 1991, 38.4 million people performed income-producing or job-related work-at-home. Such work could be part time or full time or involve the use of one or more of the following: personal computer, modem, fax, multiple phone lines (*5*). Estimates of the number of people who worked at home in this

[1]The authors wish to express their appreciation to Diane Masuo of the University of Hawaii-Honolulu for her help in data analysis.

study were much higher than numbers reported in the BLS study because of a broader definition of work-at-home. In the BLS study, people were included only if work-at-home was part of their regularly scheduled workweek.

Of all home workers in the LINK Resources study, 31 percent were self-employed. Fifty-four percent were male, and 56 percent had a college degree. Average age was 40 years, and mean hours per week worked at home was 17. Eighty percent were married, and 51 percent had children under age 18 in the household; 23 percent had a child under age 6. Average household income was $50,400.

Heck examined the prevalence of working at home using a sample of 6,744 people from the 1984 Panel Study of Income Dynamics (*3*). The study found that 5 percent of workers were engaged in home-based employment, which was defined as situations in which the worker did not travel to work or the amount of travel time varied (such as when workers travel as part of their jobs and work out of home offices). Home-based workers were more likely to be white, have a lower level of family income, have a high school diploma or more, and work shorter hours than other workers. Older people, those without children, those with young children under age 6, self-employed workers, and farmers were also more likely to be involved in home-based employment than others.

Although these studies provided information on some employment located in the home, more needs to be known about home-based workers that either own their own business or are paid by an outside employer.

Data

The NE-167 Regional Research Project, "At-Home-Income-Generation: Impact on Management, Productivity, and Stability in Rural/Urban Families," was supported by the Agricultural Experiment Stations of Hawaii, Iowa, Michigan, Lincoln University (Missouri), New York, Ohio, Pennsylvania, Utah, and Vermont, and the U.S. Department of Agriculture.

To identify home-based workers, a random sample of households was selected from telephone listings in each of the nine States (*6*). Screening calls were made in February 1989 by the Iowa State University Statistical Laboratory to find households with at least one worker based in the home. For each State, the goal was 100 completed interviews. A home-based worker was defined as a person age 18 or older who had worked 6 or more hours per week or a minimum of 312 hours during the previous 12 months. Although the home-based worker could have performed some part of the job outside the home, the home served as the only office from which this work was arranged.

Telephone interviews were conducted with 899 households with a home-based worker in March and April 1989. Data were collected on home-based workers' socioeconomic characteristics, management behavior and strategies, and the relationship between work and family. Weights were devised to account for the populations in each of the nine States. Results reported in this study are based on weighted data. A value for income was imputed in all cases where it was not reported.

Because of varying definitions of work-at-home, the results of this study are not comparable with those of the LINK Resources study, which does not focus solely on home-based workers but includes all people who work at home at least part of the time. Results reported here are more comparable with the BLS analysis on people who worked exclusively at home and the Heck study, which examined people who did not commute to work on a regular basis.

Occupations of home-based workers:

Marketing and sales – door-to-door or home salespeople, real estate and insurance agents, and mail order businesses.

Contracting – carpenters, painters, roofers, masons, and electricians.

Mechanical and transportation – plumbers, locksmiths, radio and television repair people, and auto mechanics.

Services – beauticians, hairdressers, pet groomers, fitness instructors, and elder and child-care providers.

Crafts and arts – potters, clothing designers, jewelrymakers, weavers, and teachers of these crafts and arts.

Professional and technical – lawyers, therapists, engineers, accountants, authors, teachers, architects, and consultants.

Clerical and administrative support – secretaries, bookkeepers, data processors, and tax preparers.

Management – real estate managers and special events coordinators.

Agricultural products and sales – sellers of flowers, fruits, and vegetables.

Nature of Home-Based Work

Of the home-based workers in the nine States, 75 percent had their own business and the remaining workers were paid by an outside employer (table 1). There were occupational differences between home-based business owners and paid workers. (See box, p. 3, for example of each occupation.) Of workers paid by an outside employer, 53 percent were engaged in marketing or sales. Such work typically involved a person selling an employer's products or services door to door, on the telephone, or from the home. Professional/technical and clerical/administrative support work were the next most common occupations (13 percent and 11 percent) of paid workers.

No occupational category dominated for home-based business owners. Eighteen percent were contractors, such as carpenters or electricians, and 16 percent did mechanical or transportation work. Fifteen percent each did sales or marketing work; service work, which includes home child care; and work involving crafts or art. These occupations of home-based workers differ from those in the BLS study because of dissimilar classification of occupation; the BLS study included many professional occupations under services.

The average number of hours worked per week in home-based work was 36 for business owners and 39 for paid workers. This represents the average for 50 weeks per year; some people may work more hours per week for fewer weeks per year. Average hours worked per week was somewhat skewed. Twenty-nine percent of paid workers and 37 percent of business owners worked less than 20 hours per week in home-based employment, yet 58 percent of paid workers and 43 percent of business owners worked more than 40 hours per week in home-based employment. The average number of years in home-based employment was 9 for business owners and 8 for paid workers.

Table 1. Nature of home-based work

Characteristic	All	Own business	Paid by employer
Percentage of home-based workers	100	75	25
		Percent	
Occupation			
Marketing/sales	23	15	53
Contracting	15	18	5
Mechanical/transportation	13	16	6
Services	12	15	3
Crafts/arts	12	15	2
Professional/technical	12	11	13
Clerical/administrative support	6	4	11
Management	4	3	5
Agricultural products/sales	3	3	2
Hours worked per week			
Less than 20	35	37	29
20 - 29	10	11	8
30 - 39	8	9	5
40 or more	47	43	58
Years in home-based work			
Less than 5	39	36	47
5 - 9	24	25	22
10 - 14	16	17	14
15 or more	21	22	17
Additional employment outside home			
Yes	26	28	19
No	74	72	81
Assistance with work[1]			
Yes	56	61	41
No	44	39	59

[1]For business owners, includes household members and others; for paid workers, includes only household members.

In addition to work-at-home, many home-based workers were employed in other jobs outside the home. A higher proportion of business owners than paid workers were employed outside the home (28 percent vs. 19 percent). It appears that home-based work is a complement to outside work for some rather than an alternative.

A majority (56 percent) of home-based workers had paid or nonpaid assistance with their work. Data collected on assistance with work included both household members and nonmembers for business owners but only household members for paid workers. A larger percentage of business owners than paid workers had assistance with their work (61 percent vs. 41 percent).

Of business owners receiving assistance with their work, 70 percent had at least one paid employee; 24 percent had four or more. Sixty-five percent of business owners also had help with their business from people who were not reimbursed. This uncompensated assistance was most often from family members. Of paid workers receiving assistance from household members, this help was uncompensated in 73 percent of households; in only 10 percent of households was it always compensated.

Characteristics of Home-Based Workers

The majority (58 percent) of home-based workers were male (table 2). This differs from the BLS study that found the majority of people working exclusively at home were female. The difference may reflect the earlier data (1985) used in the BLS study. In recent years, there has been a trend for more men than women to enter home-based employment (*5*). Almost no difference in gender existed between home-based workers that owned their own business and those paid by an outside employer.

Average age of home-based workers was 44; 30 percent were over age 50. Horvath hypothesized that work-at-home may be an attractive option for older people who may find a daily commute very tiring (*4*). Workers who owned their own business were older than those paid by an outside employer. Thirty-three percent of business owners were age 50 or over, compared with 23 percent of those paid by an outside employer.

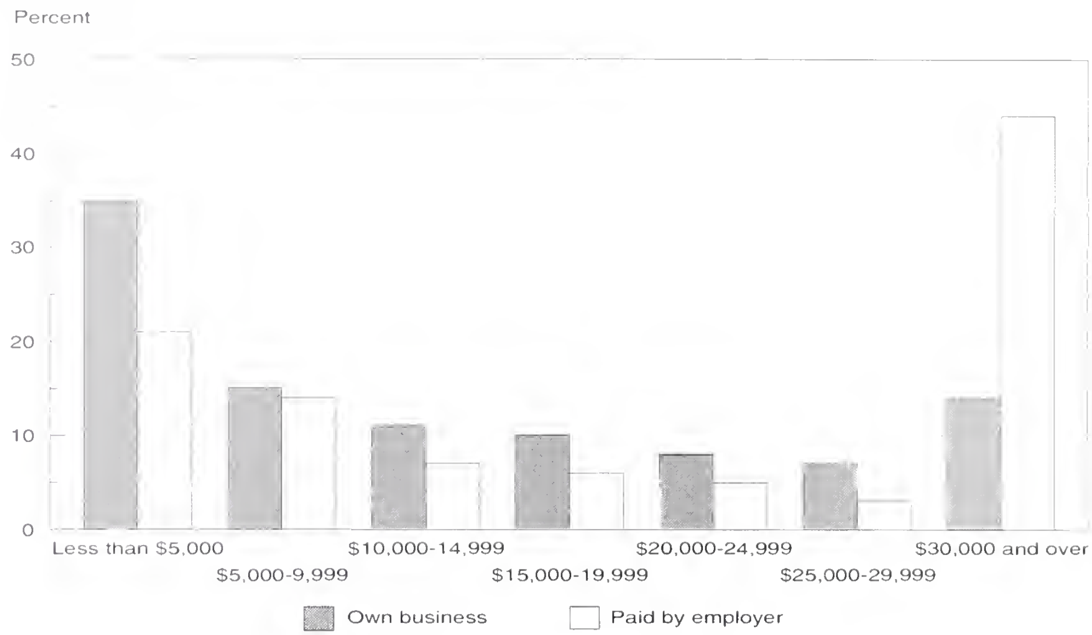
Table 2. Characteristics of home-based workers

Characteristic	All	Own business	Paid by employer
		Percent	
Sex			
Male	58	58	57
Female	42	42	43
Age			
Under 30	10	9	11
30 - 39	36	36	38
40 - 49	24	22	28
50 - 59	18	21	11
60 and over	12	12	12
Education			
Elementary or some high school	6	7	2
High school diploma	33	35	27
Some college	30	30	31
College degree	20	18	27
Some graduate school	11	10	13
Marital status			
Married	85	85	84
Never married	15	15	16
Number of children			
0	46	46	45
1	18	16	21
2	22	22	23
3 or more	14	16	11
Children under age 6			
Present	28	27	32
Not present	72	73	68
Place of residence			
Town or city over 2,500	54	52	58
Town or city under 2,500	19	20	18
Rural nonfarm	20	20	19
Farm	7	8	5

Most home-based workers had a high school diploma. A large proportion (31 percent) had a college degree. Heck also found that education was positively related to the probability of home-based employment. Home-based workers paid by an outside employer had a higher level of education than those owning their own business: 40 percent and 28 percent, respectively, had a college degree.

Regarding marital status, 85 percent of home-based workers were married. Although home-based work is often viewed as an ideal way to manage employment and family, 46 percent of home-based workers had no children in the home, and 72 percent did not have children under age 6 in the home. Eighteen percent had one child, and 14 percent had three or more children. Heck found that not having children was positively related to the probability of home-based employment.

Figure 1. Net before-tax income from home-based work



A town or city with a population over 2,500 was the place of residence for a majority (54 percent) of home-based workers; paid workers were more likely than business owners to live in a town or city with a population over 2,500. Seven percent of home-based workers lived on a farm. Some of the home-based work of these people may involve farm produce.

Net before-tax income from home-based work was higher for people paid by an outside employer than for business owners (figure 1). For paid workers, income from home-based work averaged $24,400 with 44 percent having a net income of $30,000 and over. For business owners, income from home-based work averaged $15,700 with 14 percent having a net income of $30,000 and over.

Assessment of Home-Based Work

Seventy-six percent of home-based workers thought they made adequate or good money for the time spent in such work. Six percent lost money on their home-based work during the previous year. People paid by an outside employer were more positive in terms of the time-money relationship than business owners; 86 percent of paid workers thought they made adequate or good money for the time spent in home-based work, compared with 72 percent of business owners (table 3). This is not surprising because paid workers received a higher income from home-based employment than business owners.

Most (83 percent) home-based workers indicated they received "a lot" of satisfaction from their work, whereas 5 percent stated they received "a little or none." Although business owners earned less income from home-based work and were less positive in terms of the time-money relationship for such work, a higher percentage of business owners than paid workers received "a lot" of satisfaction from home-based employment (85 percent vs. 76 percent).

Thirty-four percent of home-based workers expected their work to get better, and 7 percent expected it to get worse. For the majority (59 percent) of people, home-based work was expected to stay the same. A higher proportion of business owners than paid workers expected their work to get worse. Most home-based workers were optimistic about their future income from such work. Fifty-nine percent expected their income to increase in the next 3 years; 17 percent thought it would decrease, and a small proportion of these people were thinking of quitting their home-based employment because of this. There was little difference in direction of expected income from home-based work between business owners and those paid by an outside employer.

Table 3. Assessment of home-based work

Item	All	Own business	Paid by employer
		Percent	
Relationship between time and money for home-based work			
Lost money last year	6	7	2
Just met expenses	18	21	12
Made adequate money for time put in	48	48	49
Made good money for time put in	28	24	37
Satisfaction with home-based work			
None or a little	5	2	15
Some	12	13	9
A lot	83	85	76
Overall, home-based work expected to			
Get worse	7	8	4
Stay the same	59	58	60
Get better	34	34	36
Income from home-based work in next 3 years expected to			
Decrease[1]	17	17	15
Remain the same	24	24	25
Increase	59	59	60

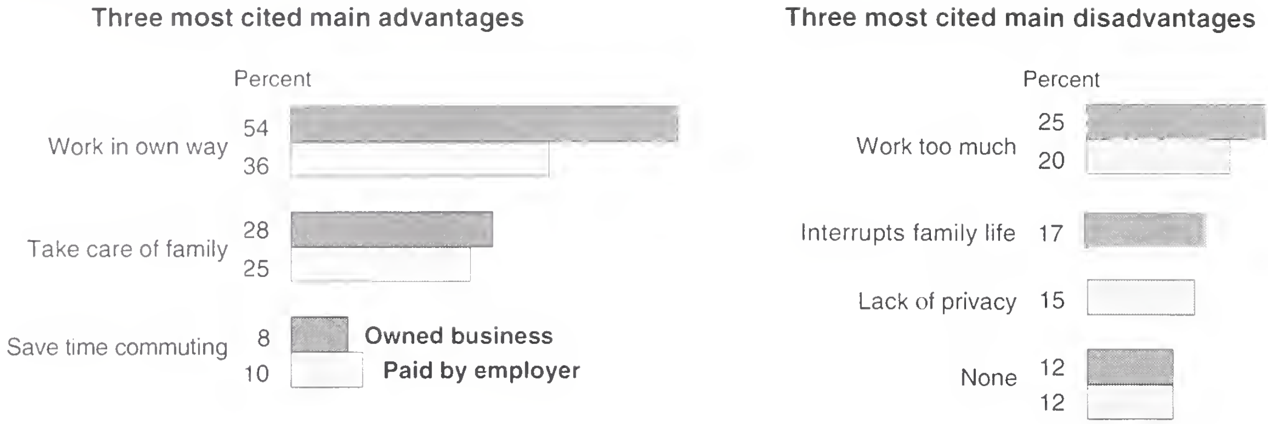
[1]Includes those who said they were quitting.

Most home-based workers were married, middle age, had at least a high school education, and lived in towns or cities with a population of 2,500 or more.

When asked the main advantages of home-based work, "working in one's own way, at own pace, and being own boss" was cited most often by both business owners and paid workers (figure 2, p. 8). Fifty-four percent of paid workers and 36 percent of business owners stated this was the main advantage to working at home. "Take care of family" was second for both groups, given by 28 percent of paid workers and 35 percent of business owners. "Save time commuting" was third for both groups, given by 8 percent of paid workers and 10 percent of business owners. Other advantages to home-based work cited included low overhead, tax benefits, and job security.

The main disadvantage of home-based work most often given was "work too much," cited by 25 percent of paid workers and 20 percent of business owners. "Interrupts family life" was second among paid workers, given by 17 percent, whereas "lack of privacy" was second among business owners, listed by 15 percent. Twelve percent of both paid workers and business owners stated there was no main disadvantage to home-based work, and this was cited third. Other disadvantages to home-based work given included feeling of isolation, unsteady income, and wear and tear on the home.

Figure 2. Home-based work



Summary and Implications

This study examined the nature of home-based work, characteristics of home-based workers, and their assessment of their work. Most home-based workers were married, middle age, had at least a high school education, and lived in towns or cities with a population of 2,500 or more. Nevertheless, home-based workers were a heterogeneous group and included women with and without children, and older and younger people. Home-based workers were likely to own their own business and work 30 or more hours per week. They pursued a variety of occupations including marketing and sales, contracting, mechanical trades and transportation, and services. Most home-based workers were satisfied with their employment and had a positive attitude toward home-based work and its future.

Findings from this study suggest implications for further investigation. Home-based work provides a range of opportunities for expanding small businesses in rural areas. Several other studies indicate more men than women are employed in home-based work. By identifying factors that influence women to enter home-based work and the community resources needed to support women in this endeavor, it may be possible to attract more women to home-based work. Also, factors that influence home-based workers to pursue certain occupations should be determined. A longitudinal study would expand the existing data base by determining the growth of home-based work and its impact on rural communities and households.

As indicated, this study provides baseline information on home-based work. Educators may incorporate findings in programs to emphasize the advantages and disadvantages of establishing and running a home-based business as well as the merits of such employment as a business owner or a paid employee. Finally, these findings can help public administrators make informed decisions about home-based work.

References

1. Ambry, M. 1988. At home in the office. *American Demographics* 10(*12*):30-33, 61.

2. Bacon, D.C. 1989. Look who's working at home. *Nation's Business* 77(*10*):20-31.

3. Heck, R.K.Z. 1991. Employment location choices: Factors associated with the likelihood of homebased employment. *Lifestyles: Family and Economic Issues* 12(*3*):217-233.

4. Horvath, F.W. 1986. Work at home: New findings from the Current Population Survey. *Monthly Labor Review* 109(*11*):31-35.

5. Miller, T. 1991. *1991 National Work-at-Home Survey*. LINK Resources, New York, NY.

6. Stafford, K., Winter, M., Duncan, K.A., and Genalo, M.A. (in press). Studying at-home income generation: Issues and methods. *Journal of Family and Economic Issues*.

Expenditures for Food Away From Home

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Consumer units spent an average of $4,267 for food in 1989, with $1,204 spent for food away from home. All types of consumer units, however, may not be participating in the trend toward increased spending for food away from home. Food expenditure data from various Federal sources were compared, and data from the Consumer Expenditure Interview Survey were used to describe socioeconomic characteristics and provide profiles of consumer units with and without expenditures for food away from home. Fifteen percent of the consumer units had zero expenditures for food away from home during the 3-month interview period. Their total mean expenditure (for housing, food, transportation, and all other goods and services) was $13,195. They spent an average of $2,510 annually for food. Compared with consumer units with food-away-from-home expenditures, those without expenditures for food away from home were more likely to have a before-tax family income of less than $15,000, be composed of one person, and have a reference person who was black, over 60 years old, had less than 9 years of education, and did not work. Information on the socioeconomic characteristics of consumer units that have no expenditures for food away from home will be useful to those interested in food trends.

The percentage of total food expenditures spent for food away from home continues to increase.

The percentage of total food expenditures spent for food away from home continues to increase. Results from a series of Consumer Expenditure Surveys (Interview component conducted by the Bureau of Labor Statistics) show that in 1972, urban consumer units[2] spent 22 percent of total food expenditures for food away from home (*15*); in 1980, urban and rural consumer units spent 25 percent of total food expenditures for food away from home (*15*); and by 1989, 28 percent of the food dollar was spent for food away from home (*17*). USDA's Economic Research Service (ERS) also reports that more and more of the food dollar is being used for meals and snacks away from home (*5,8*).

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[2]A consumer unit is comprised of either: (1) all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) two or more persons living together who pool their income to make joint expenditure decisions; or (3) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent. To be considered financially independent, at least two of the three major expense categories (housing, food, and other living expenses) have to be provided by the respondent.

This study describes those who are not part of this trend—consumer units that did not spend any money for food away from home over a 3-month period in 1989—and compares them with consumer units that spent money for food away from home. Several Federal sources of food data are available. To determine which data were best suited for this study, five sources were reviewed and evaluated.

Federal Sources of Food Expenditure Data

Personal Consumption Expenditures (PCE), the Personal Income Spent on Food Series, the Consumer Expenditure (CE) Surveys (Diary and Interview), and CE Integrated data from the two surveys are sources of food expenditure data collected by the Federal Government. The PCE, Personal Income Spent on Food Series, and CE are designed for different purposes and vary in concept, coverage, methodology, and expenditure classification (*1*). As a result, food expenditure estimates from these sources differ.

Personal Consumption Expenditures

The U.S. National Income and Product Accounts (NIPA) are compiled by the Bureau of Economic Analysis (BEA) in the U.S. Department of Commerce. The PCE component of NIPA measures the market value of durable and nondurable goods and services purchased, the operating expenses of nonprofit institutions that serve individuals, the value of in-kind goods and services received by the household sector in the U.S. economy, and the net value of used goods[3] by individuals and nonprofit institutions from business and government.

Table 1. Food expenditures by Federal food expenditure source, 1989

Data sources	All food	Food at home	Food away from home
		(Billions of dollars)	
Personal Consumption Expenditures[1]	485.1	329.6	155.5
Personal Income Spent on Food Series[2]	439.6	274.0	165.7
Consumer Expenditure Integrated Survey	397.8	229.0	168.8

[1]Personal Consumption Expenditures are determined by allocation of total production to intermediate users and final demand. Food estimates used here exclude food furnished to employees, food produced and consumed on farms, and tobacco products.
[2]The basic data for this series come from retail sales of food by type of outlet.

Sources: U.S. Department of Agriculture, Economic Research Service, unpublished data and personal communication with A. Manchester, February 1992 (10); U.S. Department of Commerce, Bureau of Economic Analysis, 1991, unpublished data (12); and calculated from U.S. Department of Labor, Bureau of Labor Statistics, 1990, Consumer expenditures in 1989, News, USDL No. 90-616 (14).

Included in the household sector are military personnel, some institutional populations, nonprofit organizations, and purchases of goods and services by U.S. residents traveling or working abroad (*12*).

To estimate expenditures, total production is determined and then allocated to intermediate users and final demand. BEA defines food at home as "food purchased for off-premise consumption." Nonalcoholic beverages and pet food are included. Food away from home is "purchased meals." This category "consists of purchases (including tips) of meals from retail, service, and amusement establishments, hotels, dining and buffet cars, schools, school fraternities, institutions, clubs, and industrial lunchrooms" (*11*). Estimates from the PCE series indicate that consumers spent $485 billion for food in 1989, with $156 billion allocated for food away from home (table 1).

Personal Income Spent on Food Series

ERS uses an integrated information system to measure prices, quantities, and values of food (*4*). In the Personal Income Spent on Food Series, food expenditures for families and individuals are related to disposable personal income. Food-at-home purchases are those made at grocery stores and other retail outlets. Included are purchases made with food stamps and food produced and consumed on farms. Away-from-home food expenditures exclude food paid for by government and business (such as foods and cash donated to schools, meals in prisons and other institutions, and expense-account meals). The ERS Personal Income Spent on Food Series shows that expenditures for food were $440 billion in 1989, with $166 billion allocated for food away from home.

[3]The net purchase (purchase less sales) includes costs incurred in the transaction, such as dealers' margins. "These entries define PCE so that it correctly measures total purchases by U.S. persons, whenever the goods were produced" (*12*). Transactions between persons are not included.

Consumer Expenditure Survey
The CE is conducted by the Bureau of the Census for the Bureau of Labor Statistics (*13*). The CE is an ongoing survey that collects data on household expenditures, income, and major socioeconomic and demographic characteristics. The CE Interview Survey is used to collect detailed data on an estimated 95 percent of total household expenditures. Expenses for a 3-month period are obtained for food at home and food away from home. To determine expenses for food away from home, respondents are asked, "Have you (or any members of your CU [consumer unit]) purchased dinners, other meals or snacks in restaurants, cafeterias, cafes, drive-ins, or other such places?" Respondents indicate their usual monthly expenses for food away from home based on the 3 months before the interview date.

Another survey instrument, the CE Diary component, is designed to obtain expenditure information on small, frequently purchased items (such as food) that are difficult for respondents to recall. During two consecutive 1-week periods of participation, consumer units keep a record of all food expenditures except those incurred during trips (overnight or longer) away from home.

Five Federal food expenditure data sources were reviewed to determine the extent to which findings on food expenditures may differ ...

Table 2. Mean expenditures for food, Consumer Expenditure Surveys, 1989

Surveys	1989
Interview	
Number of consumer units (in thousands)	95,818
Expenditures	
All food	$4,267
Food at home	3,063
Food away from home	1,204
Diary	
Number of consumer units (in thousands)	95,832
Expenditures	
All food	$3,717
Food at home[1]	2,390
Food away from home	1,327
Integrated	
Number of consumer units (in thousands)	95,818
Expenditures	
All food	$4,152
Food at home	2,390
Food away from home	1,762

[1]This includes expenditures for meals prepared by consumer unit members when they were on trips away from home.

Sources: U.S. Department of Labor, Bureau of Labor Statistics, 1990, Consumer expenditures in 1989, News, USDL No. 90-616 (14); U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey: Diary Survey, 1989, unpublished data (16); and Interview Survey, 1989, unpublished data (17).

The Integrated survey uses estimates from both the Diary and Interview components to determine total food expenditures. For food-at-home expenditures and expenditures for meals in restaurants, carryouts, and other establishments, Diary estimates are used. For food prepared on out-of-town trips as well as food-away-from-home expenditures (board, catered affairs, food on out-of-town trips, school lunches, and meals as pay), Interview estimates are used (*13*).

For table 1, aggregate figures were derived by multiplying the mean food expenditure by the total number of consumer units (*2*). In 1989, aggregate food expenditures were $398 billion, with $169 billion for food away from home. Average 1989 food expenditures for consumer units were $4,152, with $1,762 allocated for food away from home (table 2, p. 11).

Expenditure Profiles

Among Federal data sources for food expenditures, the percentage of total food expenditures used for food away from home was lowest for the CE Interview Survey (28 percent), followed by the Personal Consumption Expenditure Series (32 percent) (figure 1). Sources with the highest percentages of total food expenditures attributed to food away from home were the CE Integrated survey (42 percent) and the Personal Income Spent on Food Series (38 percent). The Federal source providing the mid-range estimate was the CE Diary Survey (36 percent).

Because the focus of this study was on how consumer units' socioeconomic characteristics affect expenditures for food away from home, it was necessary to choose a data source that could match this information for individual consumer units. Aggregate sources (PCE and Personal Income Spent on Food Series) and the CE Integrated survey do not provide this type of data. Therefore, the CE Interview Survey was selected for the purpose of providing profiles of (1) consumer units who spend part of their food dollar for food away from home and (2) consumer units who spend nothing for food away from home.

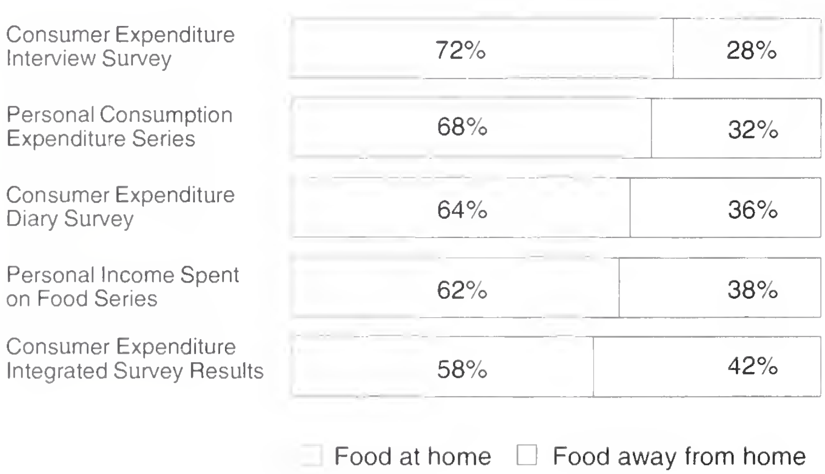
In the Consumer Expenditure Survey:

Food at home refers to the total expenditure for food at grocery stores or other food stores and food prepared by the consumer unit on trips. It *excludes* the purchase of nonfood items.

Food away from home includes all meals (breakfast, lunch, brunch, and dinner) or snacks purchased in restaurants, cafeterias, cafes, drive-ins, carryouts, and vending machines, including tips, plus meals as pay, school lunches, special catered affairs, and meals away from home on trips.

The total sample from the CE Interview Survey consisted of 20,323 consumer units; it was weighted to reflect the population. Twenty-eight percent of the consumer units had a before-tax family income[4] of less than $15,000 (table 3). Eleven percent of the reference persons[5] were black, 26 percent were over 60 years old, and 12 percent had less than 9 years of education. About half (52 percent) of the reference persons worked full time, full year.[6]

Figure 1. Food expenditures for food at home and food away from home: A comparison among data sources, 1989



[4]Includes complete income reporters—respondents who provided values for major sources of income such as wages and salaries, self-employment income, and Social Security income. However, even complete income reporters may not provide a full accounting of all income from all sources.
[5]The reference person is identified by the respondent when asked "to start with the name of the person or one of the persons who owns or rents the home."
[6]Full time: Working 35 or more hours per week. Full year: Working 50 or more weeks per year, including any time off with pay.

Table 3. Characteristics of all consumer units, 1989

Characteristics	Percent
Before-tax family income	
<$15,000	28
$15,000 - $24,999	17
$25,000 - $34,999	13
$35,000 - $44,999	10
$45,000 +	19
Incomplete income reporters	13
Number of members in consumer unit	
One	28
Two	30
Three	17
Four or more	25
Reference person	
Race	
White and others	89
Black	11
Age (years)	
40 or less	43
41 - 60	31
61 or more	26
Education (years)	
Elementary (0-8)	12
High school (1-4) or some college (1-3)	65
College graduate (4+)	23
Work status	
Full time	52
Part time	22
Not working	26

Findings from other studies guided the selection of socioeconomic characteristics included in this study. Before-tax family income, the number of people in the consumer unit, and the race, age, education, and employment status of the reference person are used to describe consumer units without expenditures for food away from home.

Highest Expenditures for Food Away From Home

Mean food expenditures for all consumer units by selected socioeconomic characteristics are presented in table 4, p. 15. Overall, mean expenditure for food away from home in 1989 was $1,204 (28 percent of total food expenditures and 5 percent of total expenditures). Consumer units spending the most dollars for food away from home had a before-tax family income of $45,000 or more, had four or more members, and had a reference person who was white or of another race (not black), was between 41 and 60 years of age, had 4 or more years of college, and worked full time.

Lowest Expenditures for Food Away From Home

Consumer units spending the fewest dollars for food away from home had a before-tax family income of less than $15,000 and a reference person who was living alone, was black, was over 60 years of age, had a maximum of 8 years of education, and was not working. In general, consumer units that spent the fewest dollars for food away from home also spent the largest percentage of *total expenditures for food.* Size of the consumer unit, however, was an exception; those with four or more members spent the most dollars for food away from home and the largest share of total expenditures for *total food.*

Zero Expenditures for Food Away From Home

Fifteen percent of the consumer units spent no money for food away from home during the 3-month interview period. They had fewer expenditures overall than consumer units that purchased food away from home: $13,195 compared with $28,146 (figures 2 and 3, p. 14). Those who did not purchase food away from home spent a larger percentage of total expenditures for food (19 percent), compared with those who did purchase food away from home

Fifteen percent of the consumer units spent no money for food away from home ...

(16 percent). Consumer units with zero expenditures for food away from home also spent a greater share of total expenditures for housing and health care than did those with expenditures for food away from home. However, expenditure shares for personal insurance, transportation, apparel (purchase and care), and entertainment were smaller in consumer units without food-away-from-home expenditures than in those making food-away-from-home purchases.

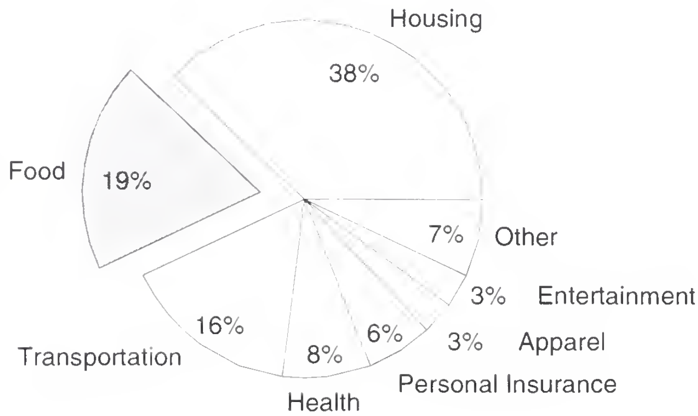
The characteristics of consumer units with zero expenditures for food away from home were similar to those with low expenditures. Over half had a before-tax family income of less than $15,000 (figure 4, p. 16). Thirty-seven percent were consumer units with one person. Twenty-three percent of reference persons in consumer units that spent no money on food away from home were black, 48 percent were over 60 years old, 29 percent had at most 8 years of education (7 percent, however, had 4 or more years of college). Over half (54 percent) of the reference persons did not work, but 27 percent worked full time and 19 percent worked part time (figure 4).

Conclusions

This study examined and compared socioeconomic characteristics of consumer units that did not purchase any food away from home over a 3-month period in 1989 with those that did. Five Federal food expenditure data sources were reviewed to determine the extent to which findings on food expenditures may differ as a result of methodological considerations.

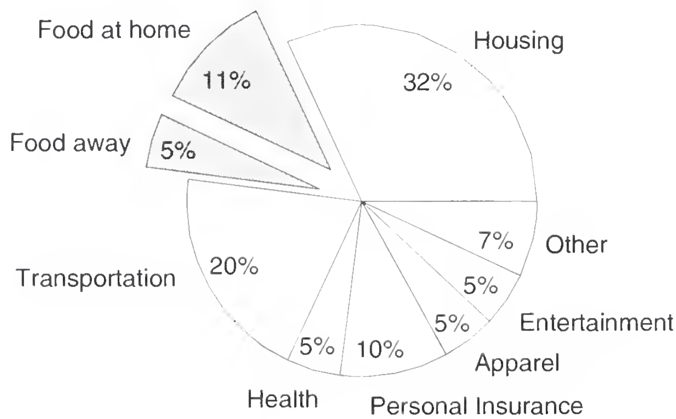
Results are similar to findings reported by others that indicated socioeconomic characteristics influence expenditures for food away from home (*18*). McCracken and Brandt (*6*) found that household income, the value of time, size, and composition of the household predicted expenditures for food away from home.

Figure 2. Expenditure shares of consumer units without expenditures for food away from home, 1989



Total expenditures=$13,195

Figure 3. Expenditure shares of consumer units with expenditures for food away from home, 1989



Total expenditures=$28,146

Table 4. Food expenditure profiles, Consumer Expenditure Interview Survey, 1989

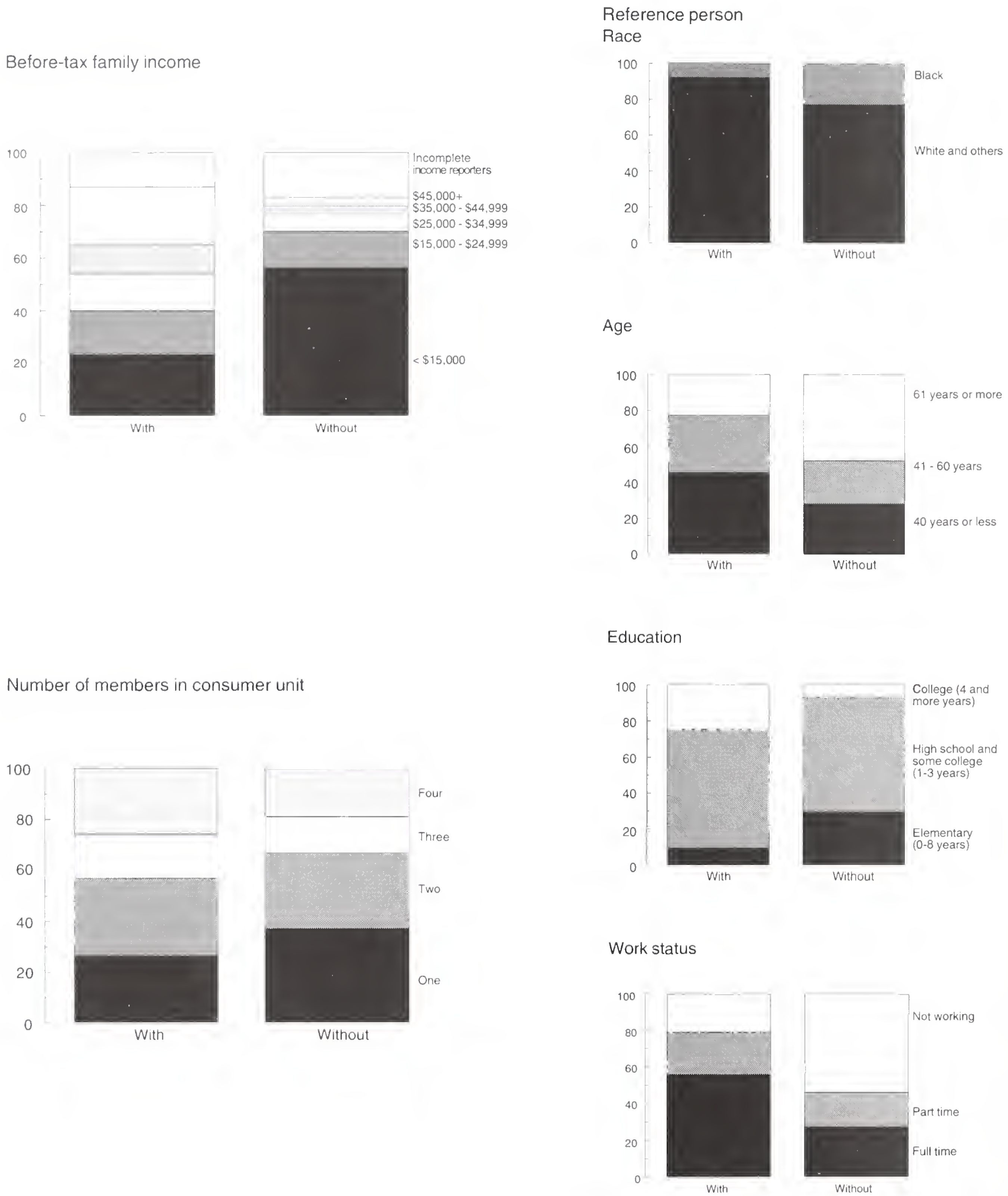
Characteristics	Total expenditures	Percent of total expenditures used for food		Mean expenditures	
		At home	Away	At home	Away
All consumer units	$25,893	12	5	$3,063	$1,204
Before-tax family income					
<$15,000	13,138	16	4	2,148	518
$15,000 - $24,999	19,991	13	4	2,688	871
$25,000 - $34,999	25,824	12	4	3,139	1,126
$35,000 - $44,999	32,362	11	5	3,510	1,467
$45,000 +	47,913	9	5	4,276	2,385
Incomplete income reporters	23,644	14	5	3,305	1,243
Number of members in consumer unit					
One	15,668	10	5	1,637	840
Two	26,266	11	5	2,870	1,330
Three	30,500	12	4	3,583	1,334
Four or more	33,719	13	4	4,541	1,368
Reference person					
Race					
White and others	26,835	12	5	3,098	1,279
Black	17,921	15	3	2,769	571
Age (years)					
40 or less	25,290	11	4	2,885	1,134
41 - 60	32,700	11	5	3,703	1,586
61 or more	18,854	14	5	2,600	867
Education (years)					
Elementary (0-8)	14,374	19	3	2,675	491
High school (1-4) or some college (1-3)	23,763	13	4	2,979	1,068
College graduate (4+)	37,968	9	5	3,508	1,963
Work status					
Full time	31,677	11	5	3,408	1,504
Part time	23,034	12	5	2,775	1,079
Not working	16,743	16	4	2,620	709

As might be expected, other researchers found that income influences expenditures for food away from home (*5,7*). A study of female labor force participation and food away from home indicated that two-earner households, rather than one-earner households, were more likely to consume food away from home (*3*).

Findings from a study of single-person households suggest that people who live alone spend a greater share of their food dollar for food away from home than do multiperson households (*9*). This finding is confirmed by this study. One-person consumer units spent 34 percent of their food dollar on food away from home. This percentage decreased to 32 percent for two-person households, 27 percent for three-person households, and 23 percent for consumer units with four or more members.

Findings in this study also suggest that those without expenditures for food away from home have different expenditure patterns overall and are less likely to influence the growth in food spending. Further study of those who do not or cannot spend money to eat outside the home would be valuable to those investigating population shifts and trends in food expenditures. This type of data would be important to family economists, food specialists, food policymakers, and food marketers.

Figure 4. Consumer units with and without expenditures for food away from home, 1989



References

1. Gieseman, R. 1987. The Consumer Expenditure Survey: Quality control by comparative analysis. *Monthly Labor Review* 110(*3*):8-14.

2. Gieseman, R. and Rogers, J. 1986. Consumer expenditures: Results from the Diary and Interview surveys. *Monthly Labor Review* 109(*6*):14-18.

3. Kolodinsky, J. 1987. Female labor force participation and expenditures on food away from home. *In*: V. Hampton, editor. *American Council on Consumer Interests*—The Proceedings, pp. 175-180. Proceedings of the 33rd Annual Conference of the American Council on Consumer Interests. [Denver, CO, April 1987].

4. Manchester, A. 1987. *Developing an Integrated Information System for the Food Sector*. Agricultural Economic Report No. 575. U.S. Department of Agriculture, Economic Research Service.

5. Manchester, A. 1991. Food spending. *FoodReview* 14(*3*):24-27.

6. McCracken, V.A. and Brandt, J.A. 1987. Household consumption of food-away-from-home: Total expenditure and by type of food facility. *American Journal of Agricultural Economics* 69:274-284.

7. Prochaska, F.J. and Schrimper, R.A. 1973. Opportunity cost of time and other socio-economic effects on away-from-home food consumption. *American Journal of Agricultural Economics* 55:595-603.

8. Putnam, J.J. 1990. *Food Consumption, Prices, and Expenditures, 1967–88*. Statistical Bulletin No. 804. U.S. Department of Agriculture, Economic Research Service.

9. Sexauer, B.H. and Mann, J.S. 1979. *Food expenditure patterns of single-person households*. ESCS Technical Bulletin No. 428. U.S. Department of Agriculture, Economic, Statistical and Cooperative Services.

10. U.S. Department of Agriculture, Economic Research Service. Unpublished data and personal communication with A. Manchester, February 1992.

11. U.S. Department of Commerce, Bureau of Economic Analysis. 1990. *Survey of Current Business* 70(*7*):52, table 2.4.

12. U.S. Department of Commerce, Bureau of Economic Analysis. 1990. *Personal Consumption Expenditures.* Methodology Paper Series MP-6, and unpublished data.

13. U.S. Department of Labor, Bureau of Labor Statistics. 1991. *Consumer Expenditure Survey Data, 1988–89*. Bulletin 2383.

14. U.S. Department of Labor, Bureau of Labor Statistics. 1990. Consumer expenditures in 1989. *News*. USDL No. 90-616.

15. U.S. Department of Labor, Bureau of Labor Statistics. 1985. *Consumer Expenditure Survey: Interview Survey, 1980–81*. Bulletin 2225.

16. U.S. Department of Labor, Bureau of Labor Statistics. Consumer Expenditure Survey: Diary Survey, 1989. Unpublished data.

17. U.S. Department of Labor, Bureau of Labor Statistics. Consumer Expenditure Survey: Interview Survey, 1989. Unpublished data.

18. Yang, H-W. 1989. Expenditures on food away from home by low-income households: Analysis using USDA's 1985 and 1986 CSFII data. *In*: M. Carsky, editor. *American Council on Consumer Interests—The Proceedings*, pp. 173-179. Proceedings of the 35th Annual Conference of the American Council on Consumer Interests. [Baltimore, MD, March 1989].

Health Care Trends

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This article presents a look at health care in the United States today. National spending on health care continues to increase yearly at double-digit rates. Price increases for hospital services and prescription drugs are responsible for much of the inflation in medical care costs. Other factors include the rapid introduction of new technologies, population growth, the aging of the population, and the threat of malpractice suits. Government programs are funding increasing shares of total health expenditures. The proportion of total expenditures that surveyed American households allocated to health care in 1989 ranged from 2 percent for households headed by a person under age 25 to 14 percent for households headed by a person age 75 or older. Other topics discussed in this article include AIDS care, long-term care, new legislation, contributions to health care agencies, current trends in diagnostics, and cost projections for health care to the year 2000.

... total health expenditures are expected to reach $1.6 trillion in the year 2000, representing 16.4 percent of that year's GNP.

A major issue facing our country today is how to provide and pay for the best possible health care for all Americans. Families are finding it increasingly difficult to afford health care, with costs continuing to rise faster than the overall inflation rate. Although nearly everyone agrees that health care reform is needed, there is no consensus on how to proceed. This article will identify major sources of information on the economic aspects of health care in the United States today, report current price and expenditure data from these sources, and suggest factors that affect health care costs.

National Expenditures

The Health Care Financing Administration (HCFA), U.S. Department of Health and Human Services (*7*), reports that the Nation's expenditure on health care was $666.2 billion in 1990, an increase of $63.4 billion from 1989 (table 1). Included in national health expenditures are health services and supplies (personal health care, program administration and the net cost of private health insurance, and government public health programs) and research and construction of medical facilities. In 1990, health services and supplies accounted for 96.6 percent of total health care spending.

The 10.5-percent increase in health care costs between 1989 and 1990 was the third consecutive year of double-digit increases in national health expenditures. Health care accounted for 12.2 percent of the gross national product (GNP) in 1990, up from 11.6 percent in 1989 and 9.2 percent in 1980. By comparison, the country's population grew by 1.0 percent per year during the decade (*10*).

According to HCFA (*10*), larger shares of government budgets are being designated for health care. In 1990, the Federal Government allocated 15.3 percent of total expenditures for medical care, up from 14.7 percent in 1989. Public

Table 1. National health expenditures, selected years 1980–90

	1980	1985	1986	1987	1988	1989	1990
National health expenditures (Billion $)	250.1	422.6	454.8	494.1	546.0	602.8	666.2
National health expenditures per capita amount ($)	1,063	1,710	1,822	1,961	2,146	2,346	2,566
			Average annual percent growth from previous year shown				
National health expenditures	NA[1]	11.1	7.6	8.6	10.5	10.4	10.5
Gross National Product	NA	8.0	5.4	6.7	7.9	6.7	5.1
U.S. population	NA	1.0	1.0	1.0	1.0	1.0	1.0
			Percent of Gross National Product				
National health expenditures	9.2	10.5	10.7	10.9	11.2	11.6	12.2

[1]NA = Not applicable.

Source: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

funds provided 42.4 percent of national health expenditures in 1990 (see figure, p. 20), a record-high percentage. Benefit payments by the Federal–State Medicaid program increased by 20.6 percent from 1989 to 1990, and health care spending by the Federal Medicare program increased by 8.6 percent.

Projections from HCFA (*7,9*) estimate national health expenditures per person to reach $5,712 in the year 2000 from $2,566 in 1990. Assuming no major change in current laws and practices, total health expenditures are expected to reach $1.6 trillion in the year 2000, representing 16.4 percent of that year's GNP.

Prices

In 1991, the price of medical care, as measured by the Consumer Price Index (CPI) for all urban consumers (*18*), rose 8.7 percent over 1990 (table 2). This compares with a 4.2-percent increase for all items and increases between 2.7 and 4.0 percent for the other major expenditure categories. Medical care commodities (prescription and nonprescription drugs and medical supplies) rose 8.2 percent over 1990, while medical care services (professional medical services and hospital and related services) rose 8.9 percent. According to Hildebrandt and Thomas (*4*) the main force behind inflation in medical-care services has been the price increases for hospital and related services, and the primary stimulus to inflation in medical-care commodities has been the price increases for prescription drugs.

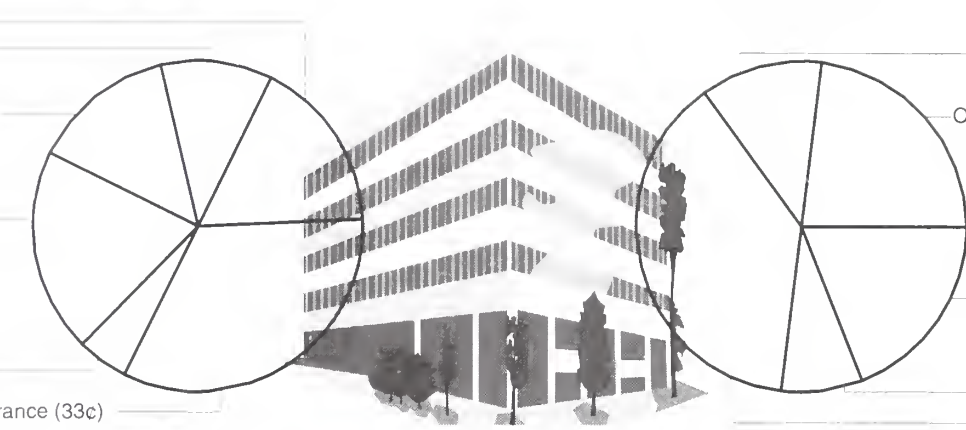
Since 1982, prices of the medical-care component of the CPI have increased 7.7 percent per year, on average, while the overall CPI has increased only 3.9 percent per year (*18*). Several factors have been cited by analysts (*4*) to explain surging prices of medical care, including the rapid introduction of expensive new technologies, the aging of the population, and the fear of malpractice suits. Population growth increased the demand for medical care.

Consumer Expenditures

According to the Consumer Expenditure Survey (*16*), the average household expenditure in 1990 for health care was $1,480, up from $1,407 spent in 1989. The portion of total expenditures allocated to health care has been rising slowly, from 4.6 percent in 1987 to 5.2 percent in 1990. Of the total health care expenditure, 42 percent was spent on health insurance[1] (commercial health insurance, Blue Cross and Blue Shield, health maintenance plans, Medicare payments, Medicare supplements, dental insurance, and other), 40 percent on medical services (physicians', dental, and eye care services, lab tests, hospital room and services, therapy, nursing home care, and other), and 18 percent on prescription drugs and medical supplies (eyeglasses, contact lenses, convalescent and medical equipment, and rental of medical or surgical equipment) (*17*).

[1]See Schwenk, N., 1990, Households with expenditures for health insurance, *Family Economics Review* 3(*1*):2-6.

The Nation's health dollar: 1990



Notes: "Other private" includes health services in the workplace, nonpatient revenues, and privately financed construction. "Other personal health care" includes dental, other professional services, home health care, drugs and other nondurable medical products, and vision products and other durable medical products. "Other spending" covers program administration and the net cost of private health insurance, government public health, research, and construction.

Source: Health Care Financing Administration, Office of the Actuary: Data from the Office of National Health Statistics.

In 1990, household spending for health care varied somewhat by region of the country, ranging from $1,336 in the Midwest to $1,600 in the South. Expenditure shares allocated to health care varied from 4.7 percent in the Northeast to 5.9 percent in the South.

Health care in 1990 accounted for a decreasing share of total expenditures as household income rose. Households in the lowest income quintile spent 8 percent of their expenditures on health care, whereas households in the highest income quintile spent less than 4 percent.

The expenditure share allocated to health care increased with age. Households headed by a person under age 25 spent 2 percent of their total expenditures on health care in 1990, compared with 14 percent for households headed by a person age 75 or older.

Long-Term Care

A major health care concern, particularly among older Americans, is the growing cost of nursing home care. According to HCFA (*7*), spending for nursing home care reached $53.1 billion in 1990, up 11.4 percent from 1989. The average charge per day for care in nursing homes was $86 in 1990, more than twice that charged in 1980. Public programs, mainly Medicaid, financed 52.1 percent of nursing home care in 1990. Most nursing home care that is financed from private sources is paid out of pocket by patients or their families. In 1990, these out-of-pocket expenditures reached $23.9 billion.

Murtaugh and others (*8*) have estimated the lifetime risk of nursing home use. Individuals and their families, private insurers, and policymakers can be guided by such information. Almost one-third of all men and just over half of all women who turned 65 in 1990 can be expected to require nursing home care at one time or another (table 3, p. 22). About 70 percent of married couples who turned 65 in 1990 can expect that at least one of the two will need a nursing home, and 90 percent of married children with four parents who turned 65 in 1990 can expect to have at least one parent in a nursing home. The gradual increase in life expectancy will result in a greater demand for nursing home care in the future.

The American Association of Retired Persons (*1*) estimates that by the year 2000 nearly 9 million elderly Americans will need long-term care services, up from 6.9 million in 1988. For every individual in a nursing home, there are two in the community with the same needs.

Long-term care insurance, a relatively new type of insurance coverage, is designed specifically to pay for some long-term care services. It covers some of the services not included under Medicare or supplemental medigap insurance.[2] However, this type of

[2] Medigap policies are designed to cover some of the costs not covered by Medicare; for example, hospital deductibles and physicians co-payments. Some medigap policies provide a skilled nursing home benefit, drugs, or special services, such as a private duty nurse. The benefits for new medigap policies have been standardized into 10 specific plans by the National Association of Insurance Commissioners. Only three of these plans provide prescription drug benefits.

Table 2. Consumer Price Index for All Urban Consumers (CPI-U): Detailed expenditure categories, U.S. city average (1982–84 = 100, unless otherwise noted)

Item and group	Annual average 1990	Annual average 1991	Percent change from 1990 to 1991
All items	130.7	136.2	4.2
Medical care	162.8	177.0	8.7
Medical care commodities	163.4	176.8	8.2
Prescription drugs	181.7	199.7	9.9
Nonprescription drugs and medical supplies[1]	120.6	126.3	4.7
Internal and respiratory over-the-counter drugs	145.9	152.4	4.5
Nonprescription medical equipment and supplies	138.0	145.0	5.1
Medical care services	162.7	177.1	8.9
Professional medical services	156.1	165.7	6.1
Physicians' services	160.8	170.5	6.0
Dental services	155.8	167.4	7.4
Eye care[1]	117.3	121.9	3.9
Services by other medical professionals[1]	120.2	126.6	5.3
Hospital and related services	178.0	196.1	10.2
Hospital rooms	175.4	191.9	9.4
Other inpatient services[1]	142.7	158.0	10.7
Outpatient services[1]	138.7	153.4	10.6

[1]Indexes on a December 1986 = 100 base.

Source: U.S. Department of Labor, Bureau of Labor Statistics, 1992, CPI Detailed Report.

insurance policy may not be available to everyone who might want to purchase one. Restrictions may exist on the age and health status of potential buyers. Also, in some geographical areas, there are no companies offering these policies (*1*).

The cost of annual premiums varies depending on the purchaser's age at time of purchase, the waiting period before benefits begin, the length of time benefits are paid, the amount of daily benefits, deductibles, and preexisting conditions. A 65-year-old individual in good health would pay between $250 and $2,000 annually for a policy that includes skilled and custodial nursing home care, and home care (*1*).

Some States now allow long-term care insurance riders on life insurance policies. These riders provide for a percentage of the policy's death benefit to be paid in advance to a policyholder requiring long-term care.

The Office of the Inspector General, U.S. Department of Health and Human Services (*15*), reports the establishment of the State Long Term Care Ombudsman program, funded under the Older Americans Act of 1965. The Act requires each State Unit on Aging to establish and operate an ombudsman program. All States and many communities have public officials who help families through the maze of long-term care facilities at no charge (*2*).

The program addresses the growing concern over the poor quality of nursing home care.

The country's 500-plus ombudsmen act as advocates of the institutionalized elderly to ensure that they have a voice in their own treatment and care. Some ombudsman duties include investigating and resolving complaints on behalf of elderly residents of nursing homes, reviewing licensing problems, and providing information on long-term care issues to residents, public agencies, legislatures, and the community (*2,15*).

Older Americans Independence Centers

In November 1991, the National Institute on Aging (NIA), one of the 13 National Institutes of Health (*13*), established the Nation's first Claude D. Pepper Older Americans Independence Centers with an award of $3.8 million. This funding covers the first year of a 5-year program. Authorized by Congress in 1990, the centers will design and conduct clinical studies aimed at preventing and reducing disabilities that affect older people's independence. The three centers are located at the University of Rochester, Rochester, New York; University of California, Los Angeles, California; and Bowman Gray School of Medicine, Winston-Salem, North Carolina. Each will focus on projects designed to help older people avoid the need for long-term care because of physical limitations. Effective intervention may benefit the elderly and reduce health care costs as well. Because about one-third of nursing home residents over age 65 require help performing physical tasks, reducing the incidence of disabilities that make long-term care necessary could save a substantial portion of health care costs. The NIA plans to expand the number of centers, with two more to be added by the end of 1992.

Table 3. Remaining lifetime risk of nursing home use among individuals turning 65 in the years 1990, 2000, 2020, and 2040

Year and sex	Population turning 65 (thousands)	Risk of nursing home use (percent)	Number entering nursing homes (thousands)
1990			
Women	1,175	51.6	606
Men	998	32.3	322
Total	**2,173**	**42.8**	**929**
2000			
Women	1,071	52.2	559
Men	947	33.0	313
Total	**2,018**	**43.3**	**873**
2020			
Women	1,988	53.3	1,060
Men	1,853	34.0	631
Total	**3,841**	**44.3**	**1,702**
2040			
Women	1,650	54.4	898
Men	1,551	35.0	542
Total	**3,201**	**45.2**	**1,446**

Note: Figures may not add to totals because of rounding.

Source: Medical Care, 1990, The risk of nursing home use in later life, Vol. 28, No. 10.

AIDS Care

One of the greatest health care issues in the United States and worldwide is finding a cure for the deadly acquired immunodeficiency syndrome (AIDS) and treating affected patients in the interim. The Agency for Health Care Policy and Research (AHCPR), U.S. Department of Health and Human Services (*14*) has estimated that the cost of treating every patient in the United States who is infected with the human immunodeficiency virus (HIV) may reach $10.4 billion by 1994. People with AIDS, a disease unknown until the 1980's, account for two-thirds of the estimate; seropositive persons—those who have the virus but not the disease—account for the remainder.

Medical care costs for people with HIV (hospital costs, physicians' fees, drug costs, and other medical expenses) are paid for by Medicaid, private insurance, and out of pocket. The cost of treating all patients with HIV is expected to increase by 21 percent per year, on average, between 1991 and 1994. The AHCPR estimates that it costs about $32,000 to treat a person with AIDS for a year and $5,150 to treat a seropositive person.

Recent Legislation

A section of the Omnibus Budget Reconciliation Act of 1990, entitled the Patient Self-Determination Act, took effect on December 1, 1991. Under this law, every adult patient entering a hospital, nursing home, hospice, or enrolled in a health maintenance organization participating in Medicare or Medicaid must be told about the right to choose and/or refuse treatment in the event of terminal or incapacitating illness. The law requires that patients be informed of their right, under individual State law, to fill out an advance directive—a document stating what is to be done if the patient becomes unable to make decisions about his or her medical care. Facilities must educate their staff

and the community about advance directives through meetings, brochures, and public announcements (*3*).

Another provision of the Omnibus Budget Reconciliation Act of 1990 enabled the Health Care Financing Administration to introduce Medicare Select (*11*). Effective January 1, 1992, Medicare Select legislation allows medigap policies to have different benefits for participating versus non-participating providers. Previously, when the law governing medigap standards did not allow for such benefit differentiation, there was little incentive for preferred provider organizations (PPO's) to link up with medigap policies. The law allows up to 15 States to work with interested parties over 3 years to introduce PPO medigap policies. The bill, Public Law 101-508, was signed on November 5, 1990.

Voluntary Health Agencies

According to the National Health Council,[3] 34 voluntary health agencies spent a record $2.44 billion to fight diseases and disabilities in 1989, the latest year for which such data are available. Included are agencies such as the American Cancer Society, the American Lung Association, the American Red Cross, the March of Dimes Birth Defects Foundation, and the National Easter Seal Society. Of the total outlay, 35 percent was spent on community services, 20 percent on public education, 16 percent on patient services, 10 percent on research, and 2 percent on professional education. Management costs and fundraising accounted for the remaining 17 percent. Public contributions provided 55 percent of the total revenues (*12*).

The average contribution to health agencies by all U.S. households was up 35 percent between 1987 and 1989, from $34 to $46 per household (in 1989 dollars). In 1987, 23.9 percent of households contributed to health agencies, with an average gift of $130 per contributing household. By 1989, 32.4 percent of households contributed to health agencies, with an average gift of $143 per contributing household. The percentage of households donating to health agencies was exceeded only by the percentage donating to religious organizations (*5*).

Current Trends in Diagnostics

Doctors By Phone (*6*)

Physicians have recently joined the 900 number industry. Doctors By Phone is available 24 hours a day nationwide. Based in New York City, the service lets the caller speak with a licensed physician, usually an internist from a major New York hospital. The cost is $3 per minute and the average call lasts 5 minutes. The doctors on call are trained to answer basic questions from various fields of medicine using an extensive computer data base of medical information. Every conversation is taped and reviewed by a medical review board to monitor the advice given and provide training as needed. Most often the service is used by people who do not understand why their doctor ordered particular tests, by those who do not have a regular doctor, or by those who are uncomfortable discussing problems with their own doctor.

National health expenditures are expected to increase at an average annual rate of 9.2 percent during the decade.

Prognosis by Computer (*19*)

Doctors may access sophisticated computer systems to help diagnose illness, select therapy, and make life-or-death decisions. The goal of these new systems is to simulate the process by which doctors evaluate medical evidence. Already in use are the following:

- a computer model to prognosticate the odds of survival for intensive-care patients.

[3]The National Health Council, founded in 1920, is a private, nonprofit association whose members include national voluntary health agencies, professional health associations, and a variety of nonprofit organizations, business corporations, and Federal Government agencies with strong interests in health issues.

- a computer model to predict heart attacks in patients who come to emergency rooms with chest pains.
- a computer model that works as a diagnostician, raising red flags, or suggesting alternative therapies, from a vast data base where descriptions of hundreds of diseases and pathological disorders are stored.
- computerized systems that read electrocardiograms.

Cost Projections

What can we expect to happen to health care costs in the near future? The Health Care Financing Administration (*9*) has developed an actuarial projection model of the health care sector to project national health expenditures through the year 2000. National health expenditures are expected to increase at an average annual rate of 9.2 percent during the decade. Private sources are expected to provide a decreasing share of national health expenditures, while the share borne by the public increases from 42 to 47 percent. An increasing portion of national health expenditures will be spent for hospital and physician services. Because most Medicare expenditures and nearly half of Medicaid expenditures are allocated to hospital and physician services, Medicare and Medicaid will account for an increasing share of total spending, from 28 percent in 1990 to a projected 34 percent in 2000.

References

1. American Association of Retired Persons. 1989. *Before You Buy: A Guide to Long-term Care Insurance.*

2. *Changing Times.* 1990. Help finding a nursing home. Vol. 44, No. 5, pp. 100-102.

3. Colburn, D. 1991. Let the patient decide. *The Washington Post*, November 19 issue.

4. Hildebrandt, P. and Thomas, E.A. 1991. The rising cost of medical care and its effects on inflation. *Economic Review* 76(*5*):47-58.

5. Independent Sector. 1990. *Giving and Volunteering in the United States.* [1990 ed.]

6. *Kiplinger's Personal Finance Magazine.* 1991. Dial-a-doctor makes its debut. Vol. 45, No. 11, pp. 93-94.

7. Levit, K.R., et al. 1991. National health expenditures, 1990. *Health Care Financing Review* 13(*1*):29-54.

8. Murtaugh, C.M., Kemper, P., and Spillman, B.C. 1990. The risk of nursing home use in later life. *Medical Care* 28(*10*):952-962.

9. Sonnefeld, S.T., et al. 1991. Projections of national health expenditures through the year 2000. *Health Care Financing Review* 13(*1*):1-27.

10. U.S. Department of Health and Human Services. 1991. *HHS News*, October 2 issue.

11. U.S. Department of Health and Human Services, Health Care Financing Administration. 1991. News Briefs: Medicare Select expands options available to Medicare beneficiaries. *Health Care Financing Review* 12(*3*):143-144.

12. U.S. Department of Health and Human Services, Health Care Financing Administration. 1991. News Briefs: Voluntary health agencies spend $2.44 billion to fight diseases. *Health Care Financing Review* 13(*1*):162.

13. U.S. Department of Health and Human Services, National Institutes of Health. 1991. *Older Americans Independence Centers Are Established by National Institute on Aging.*

14. U.S. Department of Health and Human Services, Public Health Service. 1991. *Research Activities.* No. 146.

15. U.S. Department of Health and Human Services, Office of Inspector General. 1990. *Effective Ombudsman Programs: Six Case Studies.* OEI-02-90-02122.

16. U.S. Department of Labor, Bureau of Labor Statistics. 1991. Consumer expenditures in 1990. *News.* USDL No. 91-607.

17. U.S. Department of Labor, Bureau of Labor Statistics. 1992. 1990 Interview Survey Public Use Tape Documentation.

18. U.S. Department of Labor, Bureau of Labor Statistics. 1992. *CPI Detailed Report, January 1992.*

19. Weiser, B. 1992. 'Seat of the pants' medicine's reliability rivaled by software. *The Washington Post*, January 1 issue.

Changes in Income, 1984-89

The severe recession of 1981–82 was followed by a period of substantial economic growth between 1984 and 1989. Real median family income in constant 1982 dollars (adjusted for size of family unit and age of head) rose from $13,330 in 1984 to $14,303 in 1989. This article examines changes in income for various age cohorts between 1984 and 1989. Data are from the Current Population Survey (CPS), conducted by the Bureau of the Census in March 1985 and March 1990.

Income is defined as cash income before taxes. Total income is separated into five major income types: Earnings (wages and salaries, self-employment income); Social Security benefits (including Railroad Retirement benefits); property income (interest, dividends, rent, royalties, estate and trust income); pensions and annuities; and other income (for example, Supplemental Security Income, public assistance, unemployment, and workers' compensation). A family unit is defined as either a family (two or more related persons living together) or an unrelated individual (a person who lives with no relatives). Family units are categorized into age cohorts according to the age of the unit head.

Between 1984 and 1989, real gross national product rose an average of 3.3 percent per year, as the overall unemployment rate fell steadily from 7.4 percent to 5.2 percent. Real median family income grew at an average annual rate of 1.4 percent. The average annual percentage change in real median income ranged from 0.4 percent per year for those ages 75-79 to 2.5 percent per year for those ages 50-54.

Table 1. Average annual percentage change in real median income and relative median incomes of family units, by age of unit head, 1984–89[1]

Age of unit head	Average annual percentage change	Relative median income	
		1984	1989
All ages	**1.4**	**1.00**	**1.00**
20 - 24	1.2	.64	.63
25 - 29	.6	.98	.94
30 - 34	1.0	1.04	1.02
35 - 39	.7	1.13	1.10
40 - 44	2.2	1.18	1.22
45 - 49	2.3	1.30	1.36
50 - 54	2.5	1.32	1.40
55 - 59	1.3	1.26	1.26
60 - 64	2.3	1.06	1.10
65 - 69	1.1	.94	.93
70 - 74	1.7	.79	.80
75 - 79	.4	.69	.65
80 - 84	.9	.59	.58
85 or older	.5	.56	.53

[1] Income adjusted for size of family unit and age of head.

Source: Tabulations from the March 1985 and March 1990 CPS files.

Table 2. Percentage of persons poor or near poor, by age of person, 1984 and 1989

Age	Below poverty threshold 1984	Below poverty threshold 1989	Below 150% of poverty threshold 1984	Below 150% of poverty threshold 1989
All ages	**14.4**	**12.8**	**24.3**	**22.0**
Under 5	23.9	22.6	36.2	33.9
5 - 9	22.6	20.3	33.9	31.2
10 - 14	20.1	18.1	31.0	28.2
15 - 19	18.0	15.6	27.4	25.0
20 - 24	16.0	14.8	27.3	24.7
25 - 29	12.5	11.3	21.2	20.0
30 - 34	11.4	10.8	19.4	18.4
35 - 39	10.0	8.9	17.1	15.2
40 - 44	9.6	7.2	16.3	13.1
45 - 49	9.4	7.2	15.3	12.2
50 - 54	9.4	7.7	15.4	13.0
55 - 59	9.9	9.7	17.3	16.2
60 - 64	10.9	9.5	19.9	17.4
65 - 69	9.4	8.2	21.7	20.2
70 - 74	11.5	9.6	27.9	24.7
75 - 79	13.7	13.5	32.9	32.7
80 - 84	17.7	16.7	40.4	36.8
85 or older	18.4	18.4	40.3	38.6

Source: Tabulations from the March 1985 and March 1990 CPS files.

Relative median income for the various age cohorts was derived by dividing the median income for the age group by the median income for all ages. Relative medians for 1984 and 1989 are shown in table 1, p. 25.

Poverty rates for all people fell slightly during this period, from 14.4 percent in 1984 to 12.8 percent in 1989. In both years, the rates were highest for young and old people and lowest for middle-age people. The percentage of people classified as near poor (with incomes below 150 percent of the poverty threshold) was similarly highest for young and old people. As with poverty rates, the percentage of people classified as near poor fell slightly, from 24.3 percent in 1984 to 22.0 percent in 1989 (table 2).

For some age groups, the composition of total income changed between 1984 and 1989. For those under age 55, there was little change, with earnings accounting for at least 87 percent of total income in both years. For those ages 55-64, there was a slight shift from property income to pensions. However, earnings constituted about 71 percent of total income for this age cohort. For those ages 65 and older, the share of earnings increased from 19.6 percent in 1984 to 22.1 percent in 1989; the share of pensions also increased, while the share of Social Security benefits and property income fell.

Source: Radner, D., 1991, Changes in the incomes of age groups, 1984-89, *Social Security Bulletin* 54(12):2-17.

Household Use of Financial Services

Changes in financial markets during the 1980's may have altered the banking practices of households. Among these changes were: bank mergers and acquisitions; the authorization of interest-bearing checking accounts at all depository institutions; the introduction of money market deposit accounts; the increased use of automated teller machines; and the growth of large, nationwide issuers of credit cards. In addition, features that distinguished one financial institution from another became less pronounced. For example, in the early 1960's, only commercial banks offered checking accounts. Now, savings institutions and credit unions feature checking accounts, and non-depository institutions offer money market accounts with limited checking. Also, during the 1980's, savings institutions entered the consumer credit market, and depository institutions began offering money market deposit accounts and discount brokerage services.

Data from the 1989 Survey of Consumer Finance (SCF) were analyzed to measure the effect of these changes on household banking practices. Financial services and institutions used by households and the geographic area involved were determined. The SCF, sponsored by the Federal Reserve Board and other government agencies, collected a detailed inventory of assets and liabilities from a representative sample of U.S. households. The survey identified the source of each deposit account, money market mutual fund account, mortgage, credit line, and loan. The survey also collected information on the proximity of each financial institution to home or work, the household's usual methods of conducting business with the institution, the length of association with the institution, and the different types of accounts held at each institution.

Households using local and nonlocal financial institutions, by type of institution, 1989

Type of financial institution	Local	Nonlocal	Total[1]
		Percent	
All	**89.5**	**17.8**	**90.3**
Depository	87.8	11.7	88.6
Commercial bank	75.4	6.8	77.6
Savings	37.4	3.5	39.4
Credit union	23.0	4.4	26.5
Nondepository	28.5	17.5	42.8
Finance company	13.3	9.0	21.3
Brokerage firm	10.1	4.6	14.0
Other financial	7.2	10.9	18.1

[1]Sum of local and nonlocal exceeds total because some households use both local and nonlocal institutions. An institution is local if the office or branch used by the household is located 30 miles or less from the household or workplace of the primary user.

Source: Elliehausen, G.E. and Wolken, J.D., 1992, Banking markets and the use of financial services by households, Federal Reserve Bulletin 78(3):169-181.

Commercial banks were used by 78 percent of all households, followed by savings institutions (39 percent), credit unions (26 percent), finance companies (21 percent), other financial institutions, including mortgage banks and insurance companies (18 percent), and brokerage firms (14 percent). Local institutions—those with an office or branch located 30 miles or less from the household or workplace of the primary user—were used by 90 percent of households. The average household used 2.72 financial institutions, with commercial banks accounting for nearly half. When asked to designate a financial institution as their "main" or primary one, 94 percent identified local depository institutions, and 63 percent specified a local commercial bank.

The financial service used most often by households was checking accounts. A household's main checking account was the account on which most of the household's checks were written.

Nearly all main checking accounts were at local depository institutions—68 percent at local commercial banks, 21 percent at local savings institutions, and 9 percent at local credit unions.

There is evidence that households may be clustering their purchases of financial services. Households had an average of 2.4 accounts at their "main" or primary institution and 2.5 accounts at their main checking institution. In contrast, finance companies and other nondepository financial institutions appear to be single-product institutions, averaging 1.1 accounts each. Brokerage companies, which averaged 1.7 accounts per household, were the only type of nondepository institution associated with multiple-account usage.

Asset services include checking, savings, and brokerage accounts. Credit services include mortgages, credit lines, and installment loans. Ninety-three percent of asset accounts and 85 percent of credit accounts were at local institutions. Households averaged 2.8 asset accounts and 1.9 credit accounts.

Bank credit cards were used by 56 percent of households, followed by mortgages (37 percent), motor vehicle loans (34 percent), other credit accounts, including personal loans and home improvement loans (14 percent), and home equity or other credit lines (11 percent). Twenty-eight percent of households obtained one or more financial services from a nonfinancial source, such as individuals, retailers, nonfinancial businesses, government agencies, and nonprofit agencies. These financial services were usually "other" loans. Among all financial institutions, commercial banks were most often used for all types of credit. Savings and nondepository institutions were also often the source of credit for mortgages; finance companies were often used for vehicle loans.

Findings indicate that changes that took place in financial markets during the 1980's did not cause major shifts in household banking practices. Local depository institutions, especially local commercial banks, are still the main suppliers for most of the financial services used by households. With the exception of trust accounts, the median distance from home or work to offices of financial institutions was 10 miles or less. For 9 of the 12 financial services, the median distance was 5 miles or less. These findings suggest that transaction costs may be an important consideration in selecting financial institutions. Commercial banks and other depository institutions appear to offer a unique set of products and services that are often purchased as a bundle.

Source: Elliehausen, G.E. and Wolken, J.D., 1992, Banking markets and the use of financial services by households, *Federal Reserve Bulletin* 78(3):169-181.

Family Finances

Between 1983 and 1989, family finances in the United States were affected by banking deregulation, changes in the tax law, an expanding economy, and changes in family demographics. Banks began paying interest on transaction accounts and charging customers for previously free services. The tax deduction for consumer interest (other than home mortgage interest) was gradually eliminated, thus increasing the effective price of borrowing. Other tax changes, such as the elimination of general deductions for individual retirement accounts, affected family financial planning. From 1983 to 1989, aggregate real disposable personal income increased by 21 percent, number of households by 9 percent, total household assets by 61 percent, and net worth by 56 percent. The largest growth in households occurred in those headed by individuals between the ages of 35 and 45 years, a group that tends to have a relatively high rate of saving. Dual-earner families grew from 26 percent of all families in 1983 to 29 percent in 1989.

Using data from the 1983 and 1989 Surveys of Consumer Finances, changes in family income, assets, and liabilities over the period are examined. The Survey of Consumer Finance is designed to gather detailed and comprehensive information on assets, liabilities, and income flows from a representative sample of U.S. families. Data for both surveys were collected by the Survey Research Center at the University of Michigan. The surveys were sponsored by the Federal Reserve in cooperation with several other agencies.

Between 1983 and 1989, real median before-tax income for families was virtually unchanged; however, real mean family income rose from $33,400 to $35,700. These findings suggest that incomes above the median grew faster than those below the median.

Changes in the overall real net worth of families (total assets less total debts) were greater than changes in family income. Median real net worth rose 11 percent, whereas mean real net worth rose more than 23 percent. Changes in net worth may be attributed to changes in the value of assets held or in the amount of debt carried.

Assets

The composition of assets held by all families changed only slightly between 1983 and 1989 (table 1). The small shift away from nonfinancial assets reflects declines in business and real estate assets as a share of total assets. The percentage of families with checking accounts (conventional checking accounts, NOW accounts, and money market accounts used for checking) fell from 79 percent in 1983 to 75 percent in 1989. Only 16 percent of families without checking accounts in 1989 reported service fees and balance requirements as the reason.

The proportion of families with savings accounts also fell dramatically over this period, partly because families shifted assets to other investment vehicles. The proportion of families with money market accounts rose, and the median size declined from $11,000 to $5,000. However, mean account size increased from $27,400 to $28,300, indicating the number of money market accounts with lower balances increased. The proportion of families with retirement accounts increased from 24 to 33 percent, and the median size of these accounts doubled. In part, this growth reflected the shift in employer-provided pensions from defined-benefit plans to defined-contribution and 401(k) type plans. Stock ownership (both equities and mutual funds) declined as did mean holdings; however, median values increased. Mean holdings of both taxable and nontaxable bonds decreased as did median holdings of tax-exempt bonds; median holdings of taxable bonds increased. Although the proportion of families having any type of financial asset fell slightly, median holdings more than doubled as mean holdings rose about 40 percent. These changes suggest a decline in concentration of financial assets.

Table 1. Composition of assets of all families, 1983 and 1989

Assets	1983	1989
	Percent	
Financial	25.6	27.7
Nonfinancial	74.4	72.3
Vehicles	3.6	3.9
Principal residence	33.4	32.2
Real estate and land investment	16.0	15.1
Business investment (excluding real estate)	20.4	17.8
Other	1.0	3.3
Total	100.0	100.0

Source: Kennickell, A. and Shack-Marquez, J., 1992, Changes in family finances from 1983 to 1989: Evidence from the Survey of Consumer Finances, Federal Reserve Bulletin 78(1):1-18.

Table 2. Families carrying selected financial debts, 1983 and 1989

Characteristics of the family and family head	Home mortgage 1983	Home mortgage 1989	Home equity lines 1983	Home equity lines 1989	Credit cards 1983	Credit cards 1989	Car loans 1983	Car loans 1989	Total 1983	Total 1989
All families	36.9	38.7	0.5	3.3	37.0	39.9	28.7	35.1	69.6	72.7
Family income (1989 dollars)										
Less than $10,000	9.9	8.8	*	*	11.9	15.0	8.8	11.1	41.3	47.2
$10,000 - $19,999	20.1	21.3	*	1.3	26.3	27.3	21.7	21.8	58.2	58.7
$20,000 - $29,999	34.0	36.8	*	2.4	45.5	48.9	32.9	39.4	76.6	79.5
$30,000 - $49,999	56.4	53.1	0.8	4.5	53.0	55.0	40.0	50.9	85.3	86.5
$50,000 and more	66.8	72.4	0.7	7.7	48.4	53.1	40.1	51.7	87.2	91.8
Housing status										
Own	58.3	59.8	0.8	5.0	41.6	43.8	31.0	39.0	75.1	78.0
Rent or other	*	*	*	*	29.1	32.7	24.5	27.9	60.0	63.1
Family head										
Age (years)										
Under 35	32.6	32.8	0.4	1.0	38.4	44.0	36.9	37.4	79.1	79.5
35 - 44	58.1	57.7	0.8	4.3	51.5	52.4	38.4	51.5	87.1	89.6
45 - 54	53.5	56.3	0.8	6.3	45.0	50.0	35.3	48.7	81.0	85.9
55 - 64	34.4	37.5	*	6.1	37.5	34.1	21.9	29.3	67.2	74.0
65 - 74	15.7	19.9	*	1.0	18.2	25.4	8.4	14.0	37.1	47.9
75 and over	3.7	8.6	*	*	6.1	10.6	*	5.3	16.8	23.8
Race										
White	39.2	40.9	0.6	3.6	37.9	41.0	29.7	36.3	70.6	73.9
Non-White and Hispanic	26.3	23.7	*	1.1	33.1	32.4	23.7	27.0	64.7	65.0
Life-cycle stage										
Under 55 years										
Unmarried, no children	14.8	18.1	*	*	33.3	37.5	21.6	29.8	68.8	72.8
Married, no children	45.8	52.0	*	*	52.8	57.9	45.0	50.5	91.1	89.2
Unmarried, children	31.0	26.8	*	1.6	34.3	33.4	24.6	29.9	70.5	70.0
Married, children	60.0	63.6	0.7	5.4	49.4	56.7	45.3	55.0	89.0	93.6
55 years and over										
In labor force	34.3	41.2	*	6.6	37.3	43.3	21.7	32.1	66.7	79.1
Out of labor force										
Retired	13.7	15.5	*	1.1	15.5	15.2	7.2	12.5	33.2	37.9
Other	*	17.0	*	*	10.9	18.3	*	8.6	21.5	42.1

*Fewer than five families.

Source: Kennickell, A. and Shack-Marquez, J., 1992. Changes in family finances from 1983 to 1989: Evidence from the Survey of Consumer Finances, Federal Reserve Bulletin 78(1):1-18.

Homes and vehicles are the most widely held nonfinancial assets. Rates of home ownership for all families changed only slightly between 1983 and 1989. However, there were sizable declines in ownership for families earning less than $10,000 and for single parents. In contrast, rates of home ownership for childless married couples and for families with the head between 55 and 64 years of age increased substantially. For all families, the real median home value for homeowners increased from $64,700 to $70,000, an 8-percent rise, whereas the mean value increased from $87,500 to $107,400, a 23-percent rise. The increase in value occurred largely among families with incomes of $50,000 and more. Increases in home and vehicle assets more than offset the declines in the median holdings of less widely held assets.

Liabilities

Families hold many types of debt, including home mortgages, credit cards, lines of credit, automobile loans, and investment real estate. The largest financial obligation for most families is their home mortgage. Because of changes in the tax treatment of consumer interest payments, it was expected that families would increase the proportion of debt secured by their principal residence. However, mortgage plus home equity line of credit, in real terms, actually declined as a proportion of total family debt between 1983 and 1989. Even though the level of real total home equity debt increased, other forms of debt increased even more. In particular, credit-card debt and automobile loans grew substantially over this period. The increased use of home equity lines of credit was concentrated in the high-income groups (table 2, p. 29).

The overall proportion of families using any line of credit fell from 12 percent in 1983 to 7 percent in 1989. Among most families, the proportion holding credit-card debt increased. Exceptions included non-White and Hispanic families and single-parent families. Also, despite the unfavorable tax treatment of automobile loans, both the number and the median amount of car loans increased for most families.

The proportion of families holding any type of debt rose from 70 percent in 1983 to 73 percent in 1989. Real median debt rose 13 percent and real mean debt by 42 percent, from $31,700 to $45,000. Although the median debt rose for all income groups, the increase was greatest for those with incomes of $20,000–$29,000—nearly 50 percent. Median debt for childless couples with heads under 55 years of age more than doubled.

One measure of consumers' ability to repay loans is the ratio of nonmortgage debt payments to income. For all income and demographic groups, the median payment-to-income ratio shifted upward between 1983 and 1989.

Source: Kennickell, A. and Shack-Marquez, J., 1992, Changes in family finances from 1983 to 1989: Evidence from the Survey of Consumer Finances, *Federal Reserve Bulletin* 78(*1*):1-18.

Recent Legislation Affecting Families

Public Law 102-237 (enacted December 13, 1991)—the Food, Agriculture, Conservation, and Trade Act Amendments of 1991 require the Farmers Home Administration to allow a farmer-borrower who has been affected by disasters during at least two previous crop-years to exclude the lowest annual yield from the calculation of the farm's projected future yield. The bill also authorizes the Department of Agriculture to establish a rural health leadership development program.

Public Law 102-242 (enacted December 19, 1991)—authorizes the Federal Deposit Insurance Corporation (FDIC) to borrow an additional $25 billion from the Treasury of the United States. The bill will reform the Federal deposit insurance system, protect the deposit insurance funds, and improve supervision and regulation of the disclosure relating to federally insured depository institutions. The primary means of insuring deposits at commercial banks will still be premiums paid by banks on those deposits; premiums will increase if those deposits are used to fund riskier investments. Under the bill, financial institutions are required to disclose the interest paid to depositors.

Public Law 102-243 (enacted December 20, 1991)—amends the Communications Act of 1934 to prohibit certain practices involving the use of telephone equipment for advertising and solicitation purposes. The bill makes it a violation of Federal law for any person to call another party using automatic telephone dialing equipment or prerecorded voice. Under the law, the receiver of such a call may sue the caller for damages.

Public Law 102-250 (enacted March 5, 1992)—amends the Reclamation States Drought Assistance Act of 1988 to extend the period of time during which the Secretary of the Interior may provide drought assistance. The Secretary may, over a 10-year period, undertake construction, management, and conservation activities to minimize loss and damage from drought conditions. The bill also permits the Secretary to make interest-bearing loans to water users wishing to augment water supplies.

Public Law 102-273 (enacted April 21, 1992)—authorizes jurisdictions receiving funds under the HOME Investment Partnership Act that are allocated for new construction to use the funds for fiscal 1992 for other eligible activities under the Act, at the discretion of the jurisdiction. (The HOME Investment Partnership Act was created under the Cranston-Gonzalez National Affordable Housing Act (Public Law 101-625) in 1990 to provide block grants to State and local governments to meet local housing needs.) The law also amends the Stewart B. McKinney Homeless Assistance Amendments Act of 1988 (Public Law 100-628) to authorize local governments that have financed housing projects and have a Section 8 financial adjustment factor to refinance these projects and use recaptured amounts for housing activities.

Current Regional Research Project

NC-170. Reducing Pesticide Exposure of Applicators Through Improved Clothing Design and Care

Administrative adviser:
Dr. S.T. Betsinger
University of Minnesota
St. Paul, MN 55108

Cooperating States (Universities): University of California-Davis, University of Georgia, University of Illinois, Purdue University (Indiana), Iowa State University, Kansas State University, University of Maryland Eastern Shore, Michigan State University, University of Nebraska, Oklahoma State University, South Dakota State University, and University of Alberta (Canada).

Project dates: October 1987 to September 1992

Objectives: Develop and/or evaluate textiles and protective clothing that meet users' physical, sociopsychological, and economic needs. Determine the mechanisms by which pesticides contaminate textiles and the mechanisms that enhance the removal of pesticides.

Approach: Rural and urban households were surveyed to determine attitudes toward the use and disposal of pesticides in domestic settings. Field studies, using actual working conditions, were used to assess the need for protective clothing in specific situations as a basis for designing prototype garments. Videotapes of equipment handling and glove removal were used to supplement exposure data. Protective attributes of various textiles toward pesticide penetration were studied. Fabrics varying by weight, construction, fiber content, and finishes were contaminated with selected pesticides. Pesticide removal, using an established laundering procedure, was measured. Effects of dust and perspiration on pesticide penetration and transmittance were determined. A random block design was used.

Progress: Survey and laboratory data were analyzed. Research varied by University. Personnel in Alberta studied clothing and laundry practices of farm families who use pesticides. Those in California investigated the transfer of pesticide from carpet material to clothing material. In Illinois, they studied the chemical resistance and structural integrity of protective gloves. Researchers in Iowa determined the use of pesticides in the home. In Kansas, they studied the use of household starch as a pesticide barrier. Michigan researchers determined pesticide buildup on gloves. Those in Oklahoma investigated how fabric influenced perceived moisture sensation.

Decontamination procedures through various laundering treatments and conversion to nontoxic products were studied by researchers in Alberta, Georgia, Illinois, Indiana, Iowa, Nebraska, and South Dakota. Alberta evaluated the effects of a 3-hour chlorine bleach soak and wash cycle in removing specified pesticides and subsequent loss of color in dyed fabrics. Also, the Alberta facility studied how to convert selected pesticides used by greenhouse workers to nontoxic products. Georgia determined the effects of cold water laundering on bacterial removal or survival from assorted fabrics using commercially available laundry detergents. Georgia also studied the colorfastness of stain resistant, commercially available carpets after repeated home pesticide use.

Selected publications:

Laughlin, J. and Gold, R.E. 1990. Levels of water hardness, detergent type, and prewash product use as factors affecting methyl parathion removal. *Clothing and Textiles Research Journal* 8(*4*):61-67.

Raheel, M. 1991. Pesticide transmission in fabrics: Effect of perspiration. *Bulletin of Environmental Contamination and Toxicology* 46:837-844.

Shaw, A. and Hill, K.R. 1991. Effect of exposure time on the sorption of pesticide emulsifiable concentrates through microporous fabrics. *Bulletin of Environmental Contamination and Toxicology* 46:45-52.

Slocum, A.C. and Shern, L.C. 1991. Spray deposition patterns during simulated work activities by lawn-care specialists. *Journal of Environmental Science and Health* B26(*3*): 259-278.

Stone, J.F., et al. 1988. Relationships between clothing and pesticide poisoning symptoms among Iowa farmers. *Journal of Environmental Health* 50(*4*):210-215.

Data Sources

Statistics of Income (SOI)

Sponsoring agency: U.S. Department of the Treasury

Population covered: U.S. individual and corporate taxpayers

Sample size: About 110 million individual Federal taxpayers; 84,000 corporate taxpayers in 1987.

Geographic distribution: Nationwide

Years data collected: Annually since 1916

Method of data collection: Income tax forms

Future surveys planned: Annual

Major variables: Salaries and wages, interest income, dividends, State tax refunds, self-employment income, capital gains, pensions, Social Security benefits, alimony received, alimony paid, moving expenses, medical and dental expenses, home mortgage interest, charitable contributions, earned income credit, child-care credit, exemptions, deductions, marital status. Data on sole proprietorships, partnerships, corporations, foundations, sales of capital assets, estates and associated beneficiaries, foreign tax credit, and foreign activities of U.S. citizens.

Source for further information and data: Available tax tapes include Individual Tax Tapes, County Migration Data, Charitable Organizations Study 1983 and 1985, and Corporate Tax Tapes.

Reports on the findings include studies on preliminary tax data, personal wealth, estate taxes, and intergenerational wealth. Also available are source books that provide data on corporations, sole proprietorships, and partnerships.

For tapes, reports, and source books contact:

Director, Statistics of Income Division (R:S)
Internal Revenue Service
P.O. Box 2608
Washington, D.C. 20013-2608

General questions may be directed to (202) 874-0410.

National Longitudinal Surveys of Labor Market Experience (NLS)

Sponsoring agency: U.S. Department of Labor and the Center for Human Resource Research of the Ohio State University

Population covered: U.S. civilian noninstitutionalized population of Older Men (ages 45-59), Mature Women (ages 30-44), Young Men (ages 14-24), and Young Women (ages 14-24).

Sample size: About 5,000 individuals in each age/sex category in original sample; between 2,000 and 3,500 individuals in each category in current surveys.

Geographic distribution: Nationwide

Years data collected: Annually or biennially. Older Men, 1966–83, 90; Mature Women, 1967–89; Young Men, 1966–81; Young Women, 1968–88, 91.

Method of data collection: Personal and telephone interviews

Future surveys planned: Mature Women, 1992

Major variables: Current labor force and employment status, local labor market characteristics, migration, job characteristics, work experience, military service, volunteer work, education and training, educational and occupational aspirations/expectations/attitudes, time use, marital and family characteristics, financial characteristics, health, and child care.

Topical data files are available on weekly work histories, fertility variables, merged mother-child files, childhood living arrangements, illegal activities, and substance and alcohol abuse.

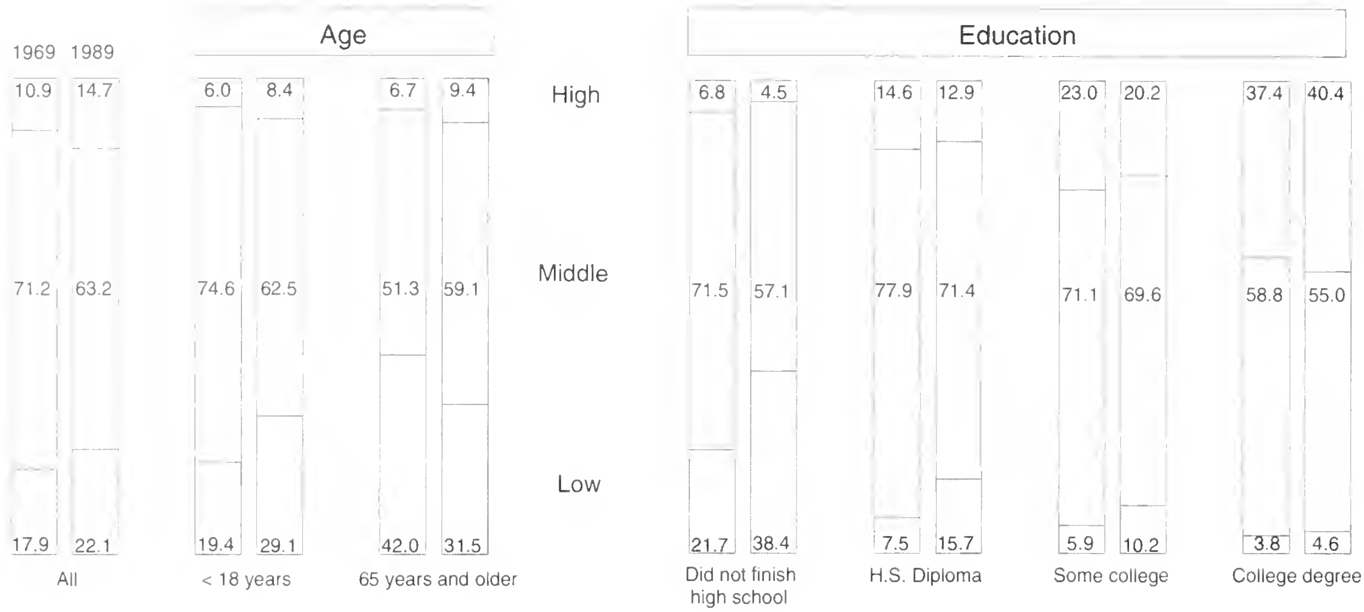
Source for further information and data: The NLS Handbook, a quarterly newsletter, annotated bibliographies, research summaries and reports, data tapes, and CD-ROM's are available from:

NLS Public User's Office
Center for Human Resource Research
921 Chatham Lane, Suite 200
Columbus, OH 43221-2418
(614) 442-7335

Questions about the survey may be directed to this same office.

Charts From Federal Data Sources

Trends in relative income of individuals, by age and education, 1969 and 1989

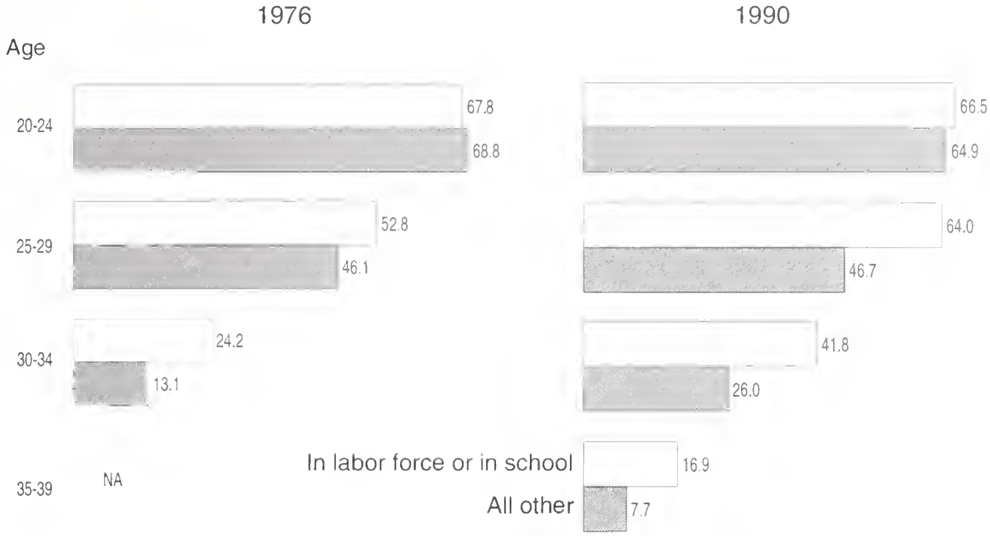


Low relative income – equivalence-adjusted[1] income less than one-half of median equivalence-adjusted income.
Middle relative income – equivalence-adusted income between 0.5 and 2.0 times that of median.
High relative income – equivalence-adjusted income at least twice that of median.

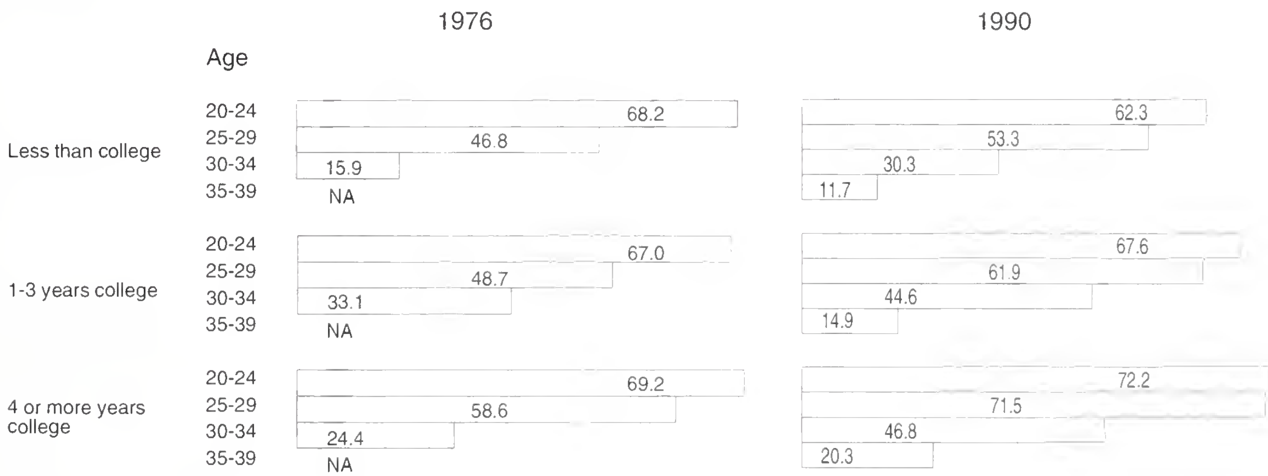
[1]Equivalence-adjusted – after each person is assigned an income value equal to the income of the person's family, a set of equivalence factors is used to adjust incomes for differences in family size.

Source: U.S. Department of Commerce, Bureau of the Census, 1991, Trends in Relative Income: 1964 to 1989, Current Population Reports, Consumer Income, Series P-60, No. 177.

Percentage of childless women expecting a future birth, by employment or school enrollment status: June 1976 and 1990



Percentage of childless women expecting a future birth, by educational attainment: June 1976 and 1990



Source: O'Connell, M., 1991, Studies in American Fertility, Late Expectations: Childbearing Patterns of American Women for the 1990's, Current Population Reports, Special Studies, Series P-23, No. 176, U.S. Department of Commerce, Bureau of the Census.

Poverty Thresholds

Weighted average poverty thresholds[1] for nonfarm families of specified size, 1965–91

Calendar year	Unrelated individuals: All ages	Unrelated individuals: Under age 65	Unrelated individuals: Age 65 or older	Families of 2 persons or more: 2 persons: All ages	2 persons: Householder under age 65	2 persons: Householder age 65 or older	3 persons	4 persons	5 persons	6 persons	Annual average CPI, all items (1982–84 = 100)
1965	$1,582	$1,626	$1,512	$2,048	$2,114	$1,906	$2,514	$3,223	$3,797	$4,264	31.5
1966	1,635	1,685	1,565	2,115	2,185	1,970	2,600	3,335	3,930	4,410	32.5
1967	1,675	1,722	1,600	2,168	2,238	2,017	2,661	3,410	4,019	4,516	33.4
1968	1,748	1,797	1,667	2,262	2,333	2,102	2,774	3,553	4,188	4,706	34.8
1969	1,840	1,893	1,757	2,383	2,458	2,215	2,924	3,743	4,415	4,958	36.7
1970	1,954	2,010	1,861	2,525	2,604	2,348	3,099	3,968	4,680	5,260	38.8
1971	2,040	2,098	1,940	2,633	2,716	2,448	3,229	4,137	4,880	5,489	40.5
1972	2,109	2,168	2,005	2,724	2,808	2,530	3,339	4,275	5,044	5,673	41.8
1973	2,247	2,307	2,130	2,895	2,984	2,688	3,548	4,540	5,358	6,028	44.4
1974	2,495	2,562	2,364	3,211	3,312	2,982	3,936	5,038	5,950	6,699	49.3
1975	2,724	2,797	2,581	3,506	3,617	3,257	4,293	5,500	6,499	7,316	53.8
1976	2,884	2,959	2,730	3,711	3,826	3,445	4,540	5,815	6,876	7,760	56.9
1977	3,075	3,152	2,906	3,951	4,072	3,666	4,833	6,191	7,320	8,261	60.6
1978	3,311	3,392	3,127	4,249	4,383	3,944	5,201	6,662	7,880	8,891	65.2
1979	3,689	3,778	3,479	4,725	4,878	4,390	5,784	7,412	8,775	9,914	72.6
1980	4,190	4,290	3,949	5,363	5,537	4,983	6,565	8,414	9,966	11,269	82.4
1981	4,620	4,729	4,359	5,917	6,111	5,498	7,250	9,287	11,007	12,449	90.9
1982	4,901	5,019	4,626	6,281	6,487	5,836	7,693	9,862	11,684	13,207	96.5
1983	5,061	5,180	4,775	6,483	6,697	6,023	7,938	10,178	12,049	13,630	99.6
1984	5,278	5,400	4,979	6,762	6,983	6,282	8,277	10,609	12,566	14,207	103.9
1985	5,469	5,593	5,156	6,998	7,231	6,503	8,573	10,989	13,007	14,696	107.6
1986	5,572	5,701	5,255	7,138	7,372	6,630	8,737	11,203	13,259	14,986	109.6
1987	5,778	5,909	5,447	7,397	7,641	6,872	9,056	11,611	13,737	15,509	113.6
1988	6,024	6,155	5,674	7,704	7,958	7,158	9,435	12,092	14,305	16,149	118.3
1989	6,311	6,451	5,947	8,076	8,343	7,501	9,885	12,675	14,990	16,921	124.0
1990	6,652	6,800	6,268	8,512	8,794	7,906	10,419	13,360	15,800	17,835	130.7
1991[2]	6,932	7,086	6,532	8,867	9,164	8,238	10,857	13,921	16,457	18,590	136.2

[1]The **poverty thresholds** are used by the Bureau of the Census to prepare its statistical estimates of the number of individuals and families in poverty. The **poverty guidelines** are a simplified version of these poverty thresholds and are issued by the Department of Health and Human Services for administrative purposes. The poverty guidelines are used to determine whether a person or family is financially eligible for assistance or services under a particular Federal program.

[2]Preliminary data: 1990 weighted average poverty levels raised by 4.2 percent to correspond with the 1991 increase from the 1990 Consumer Price Index (CPI-U) for all urban consumers.

Cost of Food at Home

Cost of food at home estimated for food plans at four cost levels, June 1992, U.S. average[1]

Sex–age group	Cost for 1 week				Cost for 1 month			
	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan
FAMILIES								
Family of 2:[2]								
20 - 50 years	$49.00	$61.80	$76.00	$94.40	$212.50	$267.90	$329.70	$409.10
51 years and over	46.50	59.30	73.00	87.30	201.30	257.10	316.50	378.20
Family of 4:								
Couple, 20 - 50 years and children—								
1 - 2 and 3 - 5 years	71.50	89.20	108.70	133.50	310.20	386.60	471.20	578.50
6 - 8 and 9 - 11 years	82.00	104.90	130.80	157.40	355.50	454.40	566.90	682.10
INDIVIDUALS[3]								
Child:								
1 - 2 years	13.00	15.80	18.40	22.30	56.40	68.50	79.70	96.60
3 - 5 years	14.00	17.20	21.20	25.40	60.60	74.60	91.80	110.00
6 - 8 years	17.10	22.80	28.50	33.20	74.10	98.70	123.40	143.70
9 - 11 years	20.40	25.90	33.20	38.40	88.20	112.20	143.80	166.50
Male:								
12 - 14 years	21.10	29.30	36.50	42.90	91.50	127.00	158.30	185.80
15 - 19 years	21.90	30.30	37.60	43.50	94.90	131.20	162.90	188.70
20 - 50 years	23.40	30.00	37.30	45.20	101.60	129.80	161.80	195.80
51 years and over	21.30	28.40	35.00	41.90	92.20	123.10	151.50	181.30
Female:								
12 - 19 years	21.30	25.30	30.70	37.10	92.20	109.70	132.90	160.60
20 - 50 years	21.10	26.20	31.80	40.60	91.60	113.70	137.90	176.10
51 years and over	21.00	25.50	31.40	37.50	90.80	110.60	136.20	162.50

[1]Assumes that food for all meals and snacks is purchased at the store and prepared at home. Estimates for the thrifty food plan were computed from quantities of foods published in *Family Economics Review* 1984(*1*). Estimates for the other plans were computed from quantities of foods published in *Family Economics Review* 1983(*2*). The costs of the food plans are estimated by updating prices paid by households surveyed in 1977–78 in USDA's Nationwide Food Consumption Survey. USDA updates these survey prices using information from the Bureau of Labor Statistics, *CPI Detailed Report*, table 4, to estimate the costs for the food plans.

[2]Ten percent added for family size adjustment. See footnote 3.

[3]The costs given are for individuals in 4-person families. For individuals in other size families, the following adjustments are suggested: 1-person—add 20 percent; 2-person—add 10 percent; 3-person—add 5 percent; 5- or 6-person—subtract 5 percent; 7- or more-person—subtract 10 percent.

Consumer Prices

Consumer Price Index for all urban consumers [1982-84 = 100]

Group	Unadjusted indexes			
	June 1992	April 1992	May 1992	June 1991
All items	140.2	139.5	139.7	136.0
Food	137.4	138.1	137.4	137.2
Food at home	136.1	137.4	136.2	137.4
Food away from home	140.7	140.2	140.4	137.9
Housing	137.7	136.5	136.7	133.4
Shelter	151.1	150.2	150.2	145.8
Renters' costs[1]	161.0	160.1	159.5	155.1
Homeowners' costs[1]	155.0	154.2	154.4	149.7
Household insurance[1]	142.0	141.1	141.4	138.5
Maintenance and repairs	128.5	128.0	128.1	126.2
Maintenance and repair services	133.1	132.2	131.9	129.9
Maintenance and repair commodities	122.3	122.4	123.0	121.3
Fuel and other utilities	119.0	115.8	116.8	115.8
Fuel oil and other household fuel commodities	90.1	89.9	89.8	89.3
Gas (piped) and electricity	117.4	111.3	113.0	114.4
Household furnishings and operation	118.2	118.0	117.9	115.9
Housefurnishings	109.1	109.7	109.2	107.5
Housekeeping supplies	129.8	129.0	129.5	129.0
Housekeeping services	132.6	130.5	131.0	127.2
Apparel and upkeep	131.0	133.3	133.1	126.9
Apparel commodities	128.4	131.1	130.9	124.4
Men's and boys' apparel	126.2	127.8	127.5	124.0
Women's and girls' apparel	128.2	133.1	132.6	124.7
Infants' and toddlers' apparel	129.6	131.3	130.3	129.8
Footwear	125.4	125.6	126.0	120.2
Apparel services	148.6	146.7	146.8	143.0
Transportation	126.9	125.2	126.3	123.7
Private transportation	125.4	122.9	124.3	121.9
New vehicles	129.1	129.1	129.2	125.8
Used cars	123.1	117.9	120.5	118.8
Motor fuel	102.9	95.0	99.4	100.5
Automobile maintenance and repair	141.2	140.5	140.8	135.6
Other private transportation	152.6	152.4	152.5	148.0
Other private transportation commodities	104.6	104.8	104.8	103.4
Other private transportation services	163.5	163.2	163.2	158.0
Public transportation	145.3	154.7	151.6	146.6
Medical care	189.4	188.1	188.7	176.2
Medical care commodities	188.0	187.9	187.6	176.5
Medical care services	189.7	188.1	188.9	176.1
Professional medical services	175.4	174.1	174.7	165.3
Entertainment	142.0	142.0	142.0	138.1
Entertainment commodities	131.3	131.4	131.2	128.3
Entertainment services	155.3	155.2	155.3	150.3
Other goods and services	181.5	180.3	181.3	170.0
Personal care	137.8	138.5	138.0	134.7
Toilet goods and personal care appliances	135.7	137.0	136.1	132.2
Personal care services	139.9	139.8	139.8	137.3
Personal and educational expenses	194.6	193.9	194.0	180.6
School books and supplies	189.1	188.7	188.4	179.1
Personal and educational services	195.2	194.5	194.7	181.0

[1]Indexes on a December 1982 = 100 base.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

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